



SEQUENCE LISTING

<110> HYBRIGENICS

Pierre, LEGRAIN

<120> Protein-protein interactions between Shigella Flexneri polypeptides and mammalian polypeptides

<130> B4778A

<140> US 10/043,487

<141> 2002-01-11

<150> US 60/261,130

<151> 2001-01-12

<160> 561

<170> PatentIn version 3.1

<210> 1

<211> 888

<212> DNA

<213> Shigella Flexneri

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attatgggac aacaaatacc aagagtattt aagaacaaga tggtatatga ttatgttttt	240

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 aaaaaagcga aaataaaaaac agtaaacgat actgatttta aagagtataa taaggtttat 420
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 gaaagtcttt cttgtatcct taactctctg ccttttttta aggaaaaaga atctttgcta 660
 gagcagataa aaaaacacct tgaaaacgat gagtcattga gtgatggctt aaaaatatcc 720
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<210> 2

<211> 711

<212> DNA

<213> Shigella Flexneri

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 gaaatagcag acagacttaa caataatgaa caagacatgt ttaattattat ttctgacaaa 660

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actatagcag cacagagtta tagtagaatg ttctctcaag gctctaactt taaatcttta	240
aatatagcaa ttgatgcacc atcagacgct aaagcctcat ttaaggctat tgagcacctt	300
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catcacactg ttgatttttg tgcaaatgcg tatatcattg atcatgactc tccatatgga	660
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<212> DNA

<213> Shigella Flexneri

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 ttaaagaaag agctttcaca aaaaacgttg actaaaacat cgctagaaga aatagcatta 240
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 actcaaattg atcaagattt tagcgctgtt ctttcagtc ttgccggctg gatctctccc 540
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 gaacaagcaa ataaatggct tacagaatta ggtggaacaa tcggcaaggt atctcaaaaa 720
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<210> 5

<211> 1149

<212> DNA

<213> Shigella Flexneri

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caaagttctt ccgaaacaca aaaatcacaa aattatcagc agattgcagc gcatattcca	180
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<211> 1022

<212> DNA

<213> Shigella Flexneri

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gaagagcgtg atgaggctgt ctcccgactt aaagaatgtc ttatcaataa ttccgatgaa	180
cttcgactgg accgttttaa tctgtcctcg ctacctgaca acttaccagc tcagataacg	240
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aaattatatt ccgccagcaa taaattatca gaattgcccg tgctacctcc tgcgctggag	360
tcacttcagg tacaacacaa tgagctggaa aacctgccag ctttaccgga ttcgttattg	420
actatgaata tcagctataa cgaaatagtc tccttaccat cgctcccaca ggctcttaaa	480
aatctcagag cgaccgtaa tttcctcact gagctaccag cattttctga gggaaataat	540
cccgttgtca gagagtattt ttttgataga aatcagataa gtcatatccc ggaaagcatt	600
cttaatctga ggaatgaatg ttcaatacat attagtata acccattatc atcccatgct	660
ctgcaagccc tgcaaagatt aacctcttcg ccggactacc acggcccacg gatttacttc	720
tccatgagtg acggacaaca gaatacactc catcgcccc tggtgatgc cgtgacagca	780
tggttcccgg aaaacaaaca atctgatgta tcacagatat ggcatgcttt tgaacatgaa	840
gagcatgcca acaccttttc cgcgttcctt gaccgccttt ccgataccgt ctctgcacgc	900
aatacctccg gattccgtga acaggctcgt gcattggctgg aaaaactcag tgcctctgcg	960
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<211> 612

<212> DNA

<213> Shigella Flexneri

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atctttgaag atgtgaatga ttcatctgct ttgtataaaa agtatgatct tattggcaac	180
cagtacaatg agattctgga aatggcttgg caagaatctg agctttttta tgctttttat	240

ggcgatgaag catccgttgt tatacagtat ggcggagatg tgtacctcg aatgctgcgc 300
 gtgcctggga ctccccttag tgacattgat acagctgata tccctgataa tatagagagc 360
 ctttatctac agttgatatg taaattgaat gagttgagta taatccatta cgatcttaat 420
 acaggtaata tgctgtatga taaagaaagt gaaagtttat tcccaataga ttttcgcaat 480
 atttatgctg aatattacgc tgcaaccaaa aaagataaag agattatcga ccgacgatta 540
 caaatgcgta caaatgattt ttattcgta ttaaacagga aatatttata gacgtatttg 600
 ttgatgctat aa 612

<210> 8

<211> 288

<212> PRT

<213> Shigella Flexneri

<400> 8

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Asn Glu Ser Ile Ser Asp Ile Ala Phe Ala His Ile Ile Lys Arg Val
 20 25 30

Lys Asn Ser Ser Cys Thr His Pro Lys Ala Ala Leu Val Phe Leu Gly
 35 40 45

Glu Lys Gly Phe Cys Asp Ser Asn Asp Val Leu Ser Ile Met Gly Gln
 50 55 60

Gln Ile Pro Arg Val Phe Lys Asn Lys Met Leu Tyr Asp Tyr Val Phe
 65 70 75 80

Lys Asn Glu Lys Ser Lys Asn Asp Phe Leu Lys Met Ala Glu Ser Trp
 85 90 95

Leu Pro Gln Ser Glu Pro Ile Val Ile Asn Asn Asp Asp Ala Leu
 100 105 110

Asn Ala Ala Ala Tyr Phe Ser Val Lys Lys Ala Lys Ile Lys Thr Val
 115 120 125

Asn Asp Thr Asp Phe Lys Glu Tyr Asn Lys Val Tyr Ile Leu Gly His
 130 135 140

Gly Ser Pro Gly Ser His Gln Leu Gly Leu Gly Ser Glu Leu Ile Asp
 145 150 155 160

Val Gln Thr Ile Ile Ser Arg Met Lys Asp Cys Gly Ile Leu Asn Val
 165 170 175

Lys Asp Ile Arg Phe Thr Ser Cys Gly Ser Ala Asp Lys Val Ala Pro
 180 185 190

Lys Asn Phe Asn Asn Ala Pro Ala Glu Ser Leu Ser Cys Ile Leu Asn
 195 200 205

Ser Leu Pro Phe Phe Lys Glu Lys Glu Ser Leu Leu Glu Gln Ile Lys
 210 215 220

Lys His Leu Glu Asn Asp Glu Ser Leu Ser Asp Gly Leu Lys Ile Ser
 225 230 235 240

Gly Tyr His Gly Tyr Gly Val His Tyr Gly Gln Glu Leu Phe Pro Tyr
 245 250 255

Ser His Tyr Arg Ser Thr Ser Ile Pro Ala Asp Pro Glu His Thr Val
 260 265 270

Lys Arg Ser Ser Gln Lys Lys Thr Phe Ile Ile Asn Lys Glu Leu Asp
 275 280 285

<210> 9

<211> 225

<212> PRT

<213> Shigella Flexneri

<400> 9

Met Ser Ile Asn Asn Tyr Gly Leu His Pro Ala Asn Asn Lys Asn Met
 1 5 10 15

His Leu Ile Ile Gly Ser Asn Thr Ala Asn Glu Asn Lys Gly Met Lys
 20 25 30

Asn Asn Ile Ile Asn Val Thr Asn Thr Ala Ile Ser His Ala Ile Asn
 35 40 45

Glu Glu Lys Ser Gly Gly Gly Tyr Ser Gly Val Ser Phe Arg Lys Leu
 50 55 60

Ala Lys Ile Gln Asn Ile Ser Ile Pro Thr Lys Asn Asn Lys Glu Tyr
 65 70 75 80

Asn Arg His Asn Leu Phe Ser Leu Ile Trp His Gly Asn Ala Asp Ala
 85 90 95

Ala Arg Lys Tyr Ser Glu Ser Leu Leu Ala Ala Glu Ile Pro Lys Glu
 100 105 110

Glu Lys Leu Glu Val Leu Ala Ala Arg Asn Asn Ala Gly Glu Ser Ala
 115 120 125

Leu Phe Ile Ala Leu Gln Glu Gly His Ser Ala Ala Ile Gln Ala Tyr
 130 135 140

Gly Asp Phe Ile Lys Thr Phe Asp Leu Ser Pro Lys Glu Thr Ile Lys
 145 150 155 160

Leu Leu Asp Val Arg Asp Asn Glu Gly Leu Pro Gly Leu Phe Leu Ala
 165 170 175

Ala Gly Lys Gly Asn Ile Glu Ala Met Met Ala Tyr Ile Asn Ile Cys
 180 185 190

His His Ser Gly Ile Lys Leu Thr Glu Ile Ala Asp Arg Leu Asn Asn
 195 200 205

Asn Glu Gln Asp Met Phe Asn Ile Ile Ser Asp Lys Ile Gln Glu Leu
 210 215 220

Phe
 225

<210> 10

<211> 470

<212> PRT

<213> Shigella Flexneri

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20 25 30

Val Arg Asn Ala Ala Gln Gln Thr Met Pro Asp Glu Lys Asn Leu Lys
35 40 45

Asp Ser Ala Asn Ile Ile Lys Asp Phe Phe Arg Lys Thr Ile Ala Ala
50 55 60

Gln Ser Tyr Ser Arg Met Phe Ser Gln Gly Ser Asn Phe Lys Ser Leu
65 70 75 80

Asn Ile Ala Ile Asp Ala Pro Ser Asp Ala Lys Ala Ser Phe Lys Ala
85 90 95

Ile Glu His Leu Asp Arg Leu Ser Lys His Tyr Ile Ser Glu Ile Arg
100 105 110

Glu Lys Leu His Pro Leu Ser Ala Glu Glu Leu Asn Leu Leu Ser Leu
115 120 125

Ile Ile Asn Ser Asp Leu Ile Phe Arg His Gln Ser Asn Ser Asp Leu
130 135 140

Ser Asp Lys Ile Leu Asn Ile Lys Ser Phe Asn Lys Ile Gln Ser Glu
145 150 155 160

Gly Ile Cys Thr Lys Arg Asn Thr Tyr Ala Asp Asp Ile Lys Lys Ile
165 170 175

Ala Asn His Asp Phe Val Phe Phe Gly Val Glu Ile Ser Asn His Gln

180

185

190

Lys Lys His Pro Leu Asn Thr Lys His His Thr Val Asp Phe Gly Ala
 195 200 205

Asn Ala Tyr Ile Ile Asp His Asp Ser Pro Tyr Gly Tyr Met Thr Leu
 210 215 220

Thr Asp His Phe Asp Asn Ala Ile Pro Pro Val Phe Tyr His Glu His
 225 230 235 240

Gln Ser Phe Leu Asp Lys Phe Ser Glu Val Asn Lys Glu Val Ser Arg
 245 250 255

Tyr Val His Gly Ser Lys Gly Ile Ile Asp Val Pro Ile Phe Asn Thr
 260 265 270

Lys Asp Met Lys Leu Gly Leu Gly Leu Tyr Leu Ile Asp Phe Ile Arg
 275 280 285

Lys Ser Glu Asp Gln Ser Phe Lys Glu Phe Cys Tyr Gly Lys Asn Leu
 290 295 300

Ala Pro Val Asp Leu Asp Arg Ile Ile Asn Phe Val Phe Gln Pro Glu
 305 310 315 320

Tyr His Ile Pro Arg Met Val Ser Thr Glu Asn Phe Lys Lys Val Lys
 325 330 335

Ile Arg Glu Ile Ser Leu Glu Glu Ala Val Thr Ala Ser Asn Tyr Glu
 340 345 350

Glu Ile Asn Lys Gln Val Thr Asn Lys Lys Ile Ala Leu Gln Ala Leu
 355 360 365

Phe Leu Ser Ile Thr Asn Gln Lys Glu Asp Val Ala Leu Tyr Ile Leu
 370 375 380

Ser Asn Phe Glu Ile Thr Arg Gln Asp Val Ile Ser Ile Lys His Glu
 385 390 395 400

Leu Tyr Asp Ile Glu Tyr Leu Leu Ser Ala His Asn Ser Ser Cys Lys
 405 410 415

Val Leu Glu Tyr Phe Ile Asn Lys Gly Leu Val Asp Val Asn Thr Lys
 420 425 430

Phe Lys Lys Thr Asn Ser Gly Asp Cys Met Leu Asp Asn Ala Ile Lys
 435 440 445

Tyr Glu Asn Ala Glu Met Ile Lys Leu Leu Leu Lys Tyr Gly Ala Thr
 450 455 460

Ser Asp Asn Lys Tyr Ile
 465 470

<210> 11

<211> 332

<212> PRT

<213> Shigella Flexneri

<400> 11

Met Asn Ile Thr Thr Leu Thr Asn Ser Ile Ser Thr Ser Ser Phe Ser
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Pro Asn Asn Thr Asn Gly Ser Ser Thr Glu Thr Val Asn Ser Asp Ile
 20 25 30

Lys Thr Thr Thr Ser Ser His Pro Val Ser Ser Leu Thr Met Leu Asn
 35 40 45

Asp Thr Leu His Asn Ile Arg Thr Thr Asn Gln Ala Leu Lys Lys Glu
 50 55 60

Leu Ser Gln Lys Thr Leu Thr Lys Thr Ser Leu Glu Glu Ile Ala Leu
 65 70 75 80

His Ser Ser Gln Ile Ser Met Asp Val Asn Lys Ser Ala Gln Leu Leu
 85 90 95

Asp Ile Leu Ser Arg Asn Glu Tyr Pro Ile Asn Lys Asp Ala Arg Glu
 100 105 110

Leu Leu His Ser Ala Pro Lys Glu Ala Glu Leu Asp Gly Asp Gln Met
 115 120 125

Ile Ser His Arg Glu Leu Trp Ala Lys Ile Ala Asn Ser Ile Asn Asp
 130 135 140

Ile Asn Glu Gln Tyr Leu Lys Val Tyr Glu His Ala Val Ser Ser Tyr
 145 150 155 160

Thr Gln Met Tyr Gln Asp Phe Ser Ala Val Leu Ser Ser Leu Ala Gly
 165 170 175

Trp Ile Ser Pro Gly Gly Asn Asp Gly Asn Ser Val Lys Leu Gln Val
 180 185 190

Asn Ser Leu Lys Lys Ala Leu Glu Glu Leu Lys Glu Lys Tyr Lys Asp
 195 200 205

Lys Pro Leu Tyr Pro Ala Asn Asn Thr Val Ser Gln Glu Gln Ala Asn
 210 215 220

Lys Trp Leu Thr Glu Leu Gly Gly Thr Ile Gly Lys Val Ser Gln Lys
 225 230 235 240

Asn Gly Gly Tyr Val Val Ser Ile Asn Met Thr Pro Ile Asp Asn Met
 245 250 255

Leu Lys Ser Leu Asp Asn Leu Gly Gly Asn Gly Glu Val Val Leu Asp
 260 265 270

Asn Ala Lys Tyr Gln Ala Trp Asn Ala Gly Phe Ser Ala Glu Asp Glu
 275 280 285

Thr Met Lys Asn Asn Leu Gln Thr Leu Val Gln Lys Tyr Ser Asn Ala
 290 295 300

Asn Ser Ile Phe Asp Asn Leu Val Lys Val Leu Ser Ser Thr Ile Ser
 305 310 315 320

Ser Cys Thr Asp Thr Asp Lys Leu Phe Leu His Phe
 325 330

<210> 12

<211> 382

<212> PRT

<213> Shigella Flexneri

<400> 12

Met Leu Gln Lys Gln Phe Cys Asn Lys Leu Leu Leu Asp Thr Asn Lys
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Glu Asn Val Met Glu Ile Gln Asn Thr Lys Pro Thr Gln Thr Leu Tyr
20 25 30

Thr Asp Ile Ser Thr Lys Gln Thr Gln Ser Ser Ser Glu Thr Gln Lys
35 40 45

Ser Gln Asn Tyr Gln Gln Ile Ala Ala His Ile Pro Leu Asn Val Gly
50 55 60

Lys Asn Pro Val Leu Thr Thr Thr Leu Asn Asp Asp Gln Leu Leu Lys
65 70 75 80

Leu Ser Glu Gln Val Gln His Asp Ser Glu Ile Ile Ala Arg Leu Thr
85 90 95

Asp Lys Lys Met Lys Asp Leu Ser Glu Met Ser His Thr Leu Thr Pro
100 105 110

Glu Asn Thr Leu Asp Ile Ser Ser Leu Ser Ser Asn Ala Val Ser Leu
115 120 125

Ile Ile Ser Val Ala Val Leu Leu Ser Ala Leu Arg Thr Ala Glu Thr
130 135 140

Lys Leu Gly Ser Gln Leu Ser Leu Ile Ala Phe Asp Ala Thr Lys Ser
145 150 155 160

Ala Ala Glu Asn Ile Val Arg Gln Gly Leu Ala Ala Leu Ser Ser Ser
165 170 175

Ile Thr Gly Ala Val Thr Gln Val Gly Ile Thr Gly Ile Gly Ala Lys

180

185

190

Lys Thr His Ser Gly Ile Ser Asp Gln Lys Gly Ala Leu Arg Lys Asn
 195 200 205

Leu Ala Thr Ala Gln Ser Leu Glu Lys Glu Leu Ala Gly Ser Lys Leu
 210 215 220

Gly Leu Asn Lys Gln Ile Asp Thr Asn Ile Thr Ser Pro Gln Thr Asn
 225 230 235 240

Ser Ser Thr Lys Phe Leu Gly Lys Asn Lys Leu Ala Pro Asp Asn Ile
 245 250 255

Ser Leu Ser Thr Glu His Lys Thr Ser Leu Ser Ser Pro Asp Ile Ser
 260 265 270

Leu Gln Asp Lys Ile Asp Thr Gln Arg Arg Thr Tyr Glu Leu Asn Thr
 275 280 285

Leu Ser Ala Gln Gln Lys Gln Asn Ile Gly Arg Ala Thr Met Glu Thr
 290 295 300

Ser Ala Val Ala Gly Asn Ile Ser Thr Ser Gly Gly Arg Tyr Ala Ser
 305 310 315 320

Ala Leu Glu Glu Glu Glu Gln Leu Ile Ser Gln Ala Ser Ser Lys Gln
 325 330 335

Ala Glu Glu Ala Ser Gln Val Ser Lys Glu Ala Ser Gln Ala Thr Asn
 340 345 350

Gln Leu Ile Gln Lys Leu Leu Asn Ile Ile Asp Ser Ile Asn Gln Ser
 355 360 365

Lys Asn Ser Ala Ala Ser Gln Ile Ala Gly Asn Ile Arg Ala
 370 375 380

<210> 13

<211> 340

<212> PRT

<213> Shigella Flexneri

<400> 13

Met Leu Pro Ile Asn Asn Asn Phe Ser Leu Pro Gln Asn Ser Phe Tyr
1 5 10 15

Asn Thr Ile Ser Gly Thr Tyr Ala Asp Tyr Phe Ser Ala Trp Asp Lys
20 25 30

Trp Glu Lys Gln Ala Leu Pro Gly Glu Glu Arg Asp Glu Ala Val Ser
35 40 45

Arg Leu Lys Glu Cys Leu Ile Asn Asn Ser Asp Glu Leu Arg Leu Asp
50 55 60

Arg Leu Asn Leu Ser Ser Leu Pro Asp Asn Leu Pro Ala Gln Ile Thr
65 70 75 80

Leu Leu Asn Val Ser Tyr Asn Gln Leu Thr Asn Leu Pro Glu Leu Pro
85 90 95

Val Thr Leu Lys Lys Leu Tyr Ser Ala Ser Asn Lys Leu Ser Glu Leu
100 105 110

Pro Val Leu Pro Pro Ala Leu Glu Ser Leu Gln Val Gln His Asn Glu
115 120 125

Leu Glu Asn Leu Pro Ala Leu Pro Asp Ser Leu Leu Thr Met Asn Ile
130 135 140

Ser Tyr Asn Glu Ile Val Ser Leu Pro Ser Leu Pro Gln Ala Leu Lys
145 150 155 160

Asn Leu Arg Ala Thr Arg Asn Phe Leu Thr Glu Leu Pro Ala Phe Ser
165 170 175

Glu Gly Asn Asn Pro Val Val Arg Glu Tyr Phe Phe Asp Arg Asn Gln
180 185 190

Ile Ser His Ile Pro Glu Ser Ile Leu Asn Leu Arg Asn Glu Cys Ser
195 200 205

Ile His Ile Ser Asp Asn Pro Leu Ser Ser His Ala Leu Gln Ala Leu
 210 215 220

Gln Arg Leu Thr Ser Ser Pro Asp Tyr His Gly Pro Arg Ile Tyr Phe
 225 230 235 240

Ser Met Ser Asp Gly Gln Gln Asn Thr Leu His Arg Pro Leu Ala Asp
 245 250 255

Ala Val Thr Ala Trp Phe Pro Glu Asn Lys Gln Ser Asp Val Ser Gln
 260 265 270

Ile Trp His Ala Phe Glu His Glu Glu His Ala Asn Thr Phe Ser Ala
 275 280 285

Phe Leu Asp Arg Leu Ser Asp Thr Val Ser Ala Arg Asn Thr Ser Gly
 290 295 300

Phe Arg Glu Gln Val Ala Ala Trp Leu Glu Lys Leu Ser Ala Ser Ala
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 325 330 335

Cys Glu Asp Arg
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<211> 196

<212> PRT

<213> Shigella Flexneri

<400> 14

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Asn Asn Ser His Ala Gly Ile Val Thr Glu Pro Ile Leu Gly Lys Leu
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Ile Gly Gln Gly Ser Thr Ala Glu Ile Phe Glu Asp Val Asn Asp Ser
 35 40 45

Ser Ala Leu Tyr Lys Lys Tyr Asp Leu Ile Gly Asn Gln Tyr Asn Glu
 50 55 60

Ile Leu Glu Met Ala Trp Gln Glu Ser Glu Leu Phe Asn Ala Phe Tyr
 65 70 75 80

Gly Asp Glu Ala Ser Val Val Ile Gln Tyr Gly Gly Asp Val Tyr Leu
 85 90 95

Arg Met Leu Arg Val Pro Gly Thr Pro Leu Ser Asp Ile Asp Thr Ala
 100 105 110

Asp Ile Pro Asp Asn Ile Glu Ser Leu Tyr Leu Gln Leu Ile Cys Lys
 115 120 125

Leu Asn Glu Leu Ser Ile Ile His Tyr Asp Leu Asn Thr Gly Asn Met
 130 135 140

Leu Tyr Asp Lys Glu Ser Glu Ser Leu Phe Pro Ile Asp Phe Arg Asn
 145 150 155 160

Ile Tyr Ala Glu Tyr Tyr Ala Ala Thr Lys Lys Asp Lys Glu Ile Ile
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Arg Lys Tyr Leu
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<211> 352

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<213> Shigella Flexneri

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gcctatgatt gggcagtagc tggactctca gtggagcctg gcgagcttca ctgtgcctgc	180
tgagtcagct tgcactctgc ccttcggctc caatacttcc aagaacgtca actctgtcat	240
tgccatctgc gtagatggga ccttcacaaa atatgtcttc actcctgatg gaaactgcaa	300
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<212> DNA

<213> Shigella Flexneri

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aaacgtgtat tgtggtctca agacttgccc caaattaacc tgtgccttcc cagtctctgt	180
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caataacaaa cacaagcatg gacaagtgtg tgtttccaat ggaaagacct attctcatgg	480
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gttggtgncn ggccctcnta ngntgtgna cgaagactgt tntttgctaa ggacctgcng	180
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<211> 1246

<212> DNA

<213> Shigella Flexneri

<400> 18

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aagacttagc cagctatcaa gtcgatgcc gctgtggaga agacattgca aaaaatactg	180
gctgatatct gaggaagaga aaacacagaa gaatcagtg tggaaatctc tcttcataga	240
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cggaggattc cagcagagac agggactgaa atactgtctc ctttaactt tttgcataca	600
tactggtttg agtcagtaca tagcagtgga agctgcagag ggccgaaaca aaaatgaagt	660

tttctaccaa tgtccagacc aaatggctcg aaatccagct gctattgaca tgtttattat	720
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agaagttcaa ggacctggag tagttggtga atttccaatc atcagcccag gtcgggtata	1080
tgaatacaca agctgtacca cattctctac aacatcagga tacatggaag gatattatac	1140
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<210> 19

<211> 786

<212> DNA

<213> Shigella Flexneri

<400> 19

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cacccaacga agccgtcttt ttgtgggaaa tcttcctccc gacatcactg aggaagaaat	180
gaggaaacta tttgagaaat atggaaaggc aggcgaagtc ttcattcata aggataaagg	240
atgtggcttt atccgcttgg aaacccgaac cctagcggag attgccaaag tggagctgga	300
caatatgcca ctccgtggaa agcagctgog tgtgcgcttt gcctgccata gtgcatecct	360
tacagttcga aaccttcctc agtatgtgtc caacgaactg ctggaagaag ccttttctgt	420
gtttggccag gtagagaggg ctgtagtcat tgtggatgat cgaggaaggc cctcaggaaa	480
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agatgatgaa gagggacttc cagagaagct gggtataaaa aaccagcaat ttcacaagga	660
acgagagcag ccaccagat ttgcacagcc tggctccttt gagtatgaat atgccatgog	720

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<212> DNA

<213> Shigella Flexneri

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caggagactg tttgcccagt tggcaggaga ggatgcggag atctctgcct ttgagctgca 180
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gctcatcatc gatattgata attttgttcg gtgtttgggt cggttgaaa cgctattcaa 540
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<210> 21

<211> 473

<212> DNA

<213> Shigella Flexneri

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 cgcttggtcc cgggagatcg gtttcaactac atcaatggca gtttattttg tgaacatgat 420
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<210> 22

<211> 365

<212> DNA

<213> Shigella Flexneri

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 gtatgcgctg aagcaggaaa gggccaaata tcataaactg aagtttggga cagacctgaa 240
 ccagggggag aagaaagcag atgtgtcaga acaagtctcc aatggccccg tggaatcggg 300
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<210> 23

<211> 1011

<212> DNA

<213> Shigella Flexneri

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<210> 24

<211> 682

<212> DNA

<213> *Shigella Flexneri*

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gagaaatcag cctcagcgcc ct

682

<210> 25

<211> 704

<212> DNA

<213> Shigella Flexneri

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<210> 26

<211> 430

<212> DNA

<213> Shigella Flexneri

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<211> 407

<212> DNA

<213> Shigella Flexneri

<400> 27

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agacaagcct cagttcatca gcagaggaac cttcaacccg gaaaagggca aacaaaaatt 300
aaagaatgtg aaaaactcac ctcagaaaac caaagagacc ccagagggga cagtcatgtc 360
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<210> 28

<211> 620

<212> DNA

<213> Shigella Flexneri

<400> 28

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ccttatggac caactttcac tactggtgat gtcattggct gttgtgttaa tcttatcaac 180
aatacctgct ttacaccaa gaatggacat agtttaggta ttgctttcac tgacctaccg 240
ccaaatttgt atcctactgt ggggcttcaa acaccaggag aagtggtcga tgccaatttt 300

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caaaaaatgg ttcatctta tttagtccac catgggtact gtgccacagc agaggccttt 480
gccagatcta cagaccagac cgttctagaa gaattagctt ccattaagaa tagacaaaga 540
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<210> 29

<211> 290

<212> DNA

<213> Shigella Flexneri

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tctcctccaa aggatcaaaa ctctcgcga gcaagggaac aaaaccagat ggagaatgag 180
tttgatgaat tgacagaagt aggcttcaga aggtgggtaa taacaagtaa gctaaaggag 240
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<211> 248

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gctgacagac acagagcagg gtctctcgtg gaacaggagt tgtctgggtct gttcagtttg 180

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<210> 31

<211> 1296

<212> DNA

<213> Shigella Flexneri

<400> 31

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gattccaccc tgcataccta ctcccttct ttctgtcca gagccacccc tagctgtccc	360
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<210> 32

<211> 476

<212> DNA

<213> Shigella Flexneri

<400> 32

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ccttatggac caactttcac tactgggtgat gtcattggct gttgtgttaa tcttatcaac	180
aatacctgct tttacaccaa gaatggacat agtttaggta ttgctttcac tgacctaccg	240
ccaaatttgt atcctactgt ggggcttcaa acaccaggag aagtggtcga tgccaatttt	300
gggcaacatc ctttcgtgtt tgatatagaa gactatatgc gggagtggag aaccaaatac	360
caggcacaga tagatcgatt tcctatcgga gatcgagaag gagaatggca gaccatgata	420
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<210> 33

<211> 1571

<212> DNA

<213> Shigella Flexneri

<400> 33

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agcagatgga acggaaaaag tagaaggatc catgacgcag aaactggaga atgttctgaa	180
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<210> 34

<211> 306

<212> DNA

<213> Shigella Flexneri

<220>

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<221> MISC_FEATURE

<222> (273)..(273)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (306)..(306)

<223> MISC_FEATURE

<400> 34

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tctagagaag caactagaat atacaaagag aatggttctc aacgtaggag cgagaaaaga	180
acatgatcct agaacaacag gccagcttc agagggaaaa agaacaagat cagatgaagc	240
tgtatgcaaa acttgaaaag cttgatgtct tanaaaaaaga gtgtttcaga cttacaacaa	300
ctcagn	306

<210> 35

<211> 291

<212> DNA

<213> Shigella Flexneri

<400> 35

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gttgtcagcg aagctttctg aaaacagtaa gatactgata tctatggcta aggaaaacat	180
accaccaa atgtcaacaga ccaggggttc cttaggaatt gattatggat taagtttacc	240
acttggagaa gactatgaac ggaagaaaca taaattaaaa gaagaattgc g	291

<210> 36

<211> 387

<212> DNA

<213> Shigella Flexneri

<400> 36
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<210> 37

<211> 638

<212> DNA

<213> Shigella Flexneri

<400> 37
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 gatgtctgcc ttccgggctg agttcatcgc cacaaggctct atggatttca ttggcatgat 180
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 cttggccttg gctgatcctc ctgagagtga ccgacttcag attctcaacg aagcttgga 300
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 atacacctgc aagcatttca cgaaacgaga ggtgaatacc gttttggcag atgtcatcaa 420
 gcacatgact ccagatcgtg catttgaaga ttctacccc cagcttcagt taataattaa 480
 gaaagttatt gcccacttcc atgacttctc agttcttttc tcagtggaaa aatttctgcc 540
 gtttctggac atgttccaaa aagagagtgt gcgggtggag gtttgcaaat gcatcatgga 600
 cgcctttatc aagcatcaac aagagcccac caaggacc 638

<210> 38

<211> 470

<212> DNA

<213> Shigella Flexneri

<400> 38

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ttgtgggaaa gagaaggtac tgtttctaag actctactta cttcaaggga tccgaaacta    180
tcacagtgga aatgatgtag aggccttatga gtatcttaac aggcacgtca gctctttaa    240
gagctatata ttgatccatc aaaagtggac aatttggtgc agttgggggt tactgcccag    300
gaagcaccgg cttggcctga gggcgtgtga tgggaacgtg gatcatgcgg ccatcatat    360
taccaaccgc agagaggaac tggcccaaat aaggaaggag gaaaaagaga agaaaagacg    420
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<210> 39

<211> 352

<212> DNA

<213> Shigella Flexneri

<400> 39

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gaacaagctg aggggtgttg acccagaggt taccagcag accatagagc tgaaggaaga    60
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gcttggtgat caacttgcaa aagaagcaga aaatgaaaag atgaaggcca tcggtgctcg    180
gaacttgctc aaatctatag caaagcagag agaagctcaa cagcagcaac ttcaagccct    240
aatagcagaa aagaaaatgc agctagaaag gtatcgggtt gaatatgaag ctttgtgtaa    300
agtagaagca gaacaaaatg aatttattga ccaatttatt tttcagaaat ga    352

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<210> 40

<211> 1026

<212> DNA

<213> Shigella Flexneri

<400> 40

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caactgagaa gaattgagga cgctctggat gactcaattg gagatgtttg ggatttcaat	180
cttgatccta tagcattaa gcttttgcct tatgaacagt cctctctttt ggaactcata	240
aagactgaaa acaaggtctt aaacaaagtc atcactgttt atgctgcact ttgttgtgaa	300
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ttaaagccat ttgaaaagtt cttgctgaag ctagaagggc aattactgga tggaatgata	780
ttccaggcct gtatagaaca acaatttgat tctctcaatg gaggagtata tgtgtcaaaa	840
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gccaaacttg gagaaccttc tgaaattgac cagagagaca agtatgttgg aatttgtgga	960
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ttggac	1026

<210> 41

<211> 741

<212> DNA

<213> Shigella Flexneri

<400> 41

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ttgcggagca gccctcgggtg aagctgtgct gtcagctctg ctgcagcgtc ttcaaagacc	180
ccgtgatcac cacgtgtggg cacacgttct gtaggagatg cgccttgaag tcagagaagt	240

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 tgcacgtggc tctggcccag aaggaccagg agatcgctt cctgcgctcc atgctgggaa 720
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<210> 42

<211> 136

<212> DNA

<213> Shigella Flexneri

<400> 42
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 ctttgttcag gacctg 136

<210> 43

<211> 1137

<212> DNA

<213> Shigella Flexneri

<400> 43
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gatcagtggg agatggaaac agtttactct aattcagaag tcagaaactt gaatgttctt 360
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<210> 44

<211> 802

<212> DNA

<213> Shigella Flexneri

<400> 44

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<210> 45

<211> 713

<212> DNA

<213> Shigella Flexneri

<400> 45

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<210> 46

<211> 681

<212> DNA

<213> Shigella Flexneri

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 gcccaagacc ccagatgtt ggatcagctc tccaaaaaca tctctcgtg tgggctgtcc 600
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<210> 47

<211> 910

<212> DNA

<213> *Shigella Flexneri*

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<210> 48

<211> 1131

<212> DNA

<213> Shigella Flexneri

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cctggctcga gcctcaggcc gatttggaca ggacttcagc accttcctgg aagctgggtg	180
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 aactatcagt acggattcaa cctgggtcatg tccccccccc atgctgtcaa tgagattgca 240
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<211> 686

<212> DNA

<213> Shigella Flexneri

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 gctccgccga gagaatgctg ccctccggcg gcggctggag gccttgctgg ctgaaaacag 180

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 gccagttcag ggagttgaac ctctccaggg gtccctccag ggccctaagg agccccagcc 420
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 cactgagtcc ctgaggcttg ctgacgagtt gagtggctgg gtccagcgcc accagagagg 600
 ccggaggaag atccctcaga gggcccagga gagacagaag tctcagccac ggaagaagtc 660
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<211> 691

<212> DNA

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 ttccggaggat tttgaaaact ctccaagtct gacagcatct gagccaaccg cccattccaa 180
 ggagtctctt gacagaacac tggacgcttt gtctgaatcc tcttcaagtg tgaagacaga 240
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 ccggcacctg cagccctccc tctgcgctc cctggacgag gactccttcc actaccacac 600
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<211> 456

<212> DNA

<213> Shigella Flexneri

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aaggaggctc tgagaccctt gcaagcagag gcccggcagc tccgcctgca aaacaggaac	180
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gaacagctgg aggaaatgga agaacgccag aggcagttaa gaaatggggg gcaactccag	300
caacagaaga acaaagagat ggaacagcta aggcctcagtc ttgctgaaga gctctctact	360
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<210> 53

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<212> DNA

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<400> 53

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caactgctc agctgcgaag gctgcaaggg cttcttccgg cgcagtgtgg tccgtggtgg	180
ggccaggcgc tatgcctgcc ggggtggcgg aacctgccag atggacgctt tcatgcggcg	240
caagtgccag cagtgccggc tgcgcaagtg caaggaggca gggatgaggg agcagtgcgt	300
cctttctgaa gaacagatcc ggaagaagaa gattcggaaa cagcagcagc aggagtcaca	360
gtcacagtgc cagtcacctg tggggccgca gggcagcagc agctcagcct ctgggcctgg	420
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gctaacagcg gctcaagaac taatgatcca gcagttggtg gcggcccaac tgcagtgcaa	540
caaacgctcc ttctccgacc agcccaaagt cagccctggg cccctgggcg cagaccccca	600

gtcccgagat gcccgccagc aacgctttgc ccacttcacg gagctggcca tcattctcagt 660
 ccaggagatc gtggacttcg ctaagcaagt gcctgggttc ctgcagctgg gccgggagga 720
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<210> 54

<211> 392

<212> DNA

<213> Shigella Flexneri

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 ctgggtgctcc tgggtgggcac cctccccgca ggggaattgcg tgggtgctgaa gccgtcagaa 180
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 tgctttgccg tgggtgctggg cggacccccag gagacagggc agctgctaga gcacaagttg 300
 gactacatct tcttcacagg gagccctcgt gtgggcaaga ttgtcatgac tgetgccacc 360
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<210> 55

<211> 346

<212> DNA

<213> Shigella Flexneri

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 agctggctct gaagatattg acatacttcc caatgggtctg gcttttttta gtgtgggtct 180
 aaaattccca ggactccaca gctttgcacc agataagcct ggaggaatac taatgatgga 240
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 ctcatccaat ccacatggca tcagcacttt catagacaac gatgac 346

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nnnnnnnnnn nggttcttaa tctttgctct cctgaccctt ttactctcat aaaaattatt 180
ngaggactcc aaatataata gcttttattt atgtatgtna taactttgga tactatatta 240
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<210> 57

<211> 329

<212> DNA

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tattttatgt cttatggttg ctgattctgt tgccatcnga ttactacgat aaanaagatc	180
tgngnctann gangggncctt ntttgaactg ntncnnggc ntnggntngg gngcntntgt	240
ntngncnnng ttgttgngnn nanggcgngn ncggngncng ttgattnnca ggtntggnnn	300
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<211> 832

<212> DNA

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<400> 58

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cgagcccggc accaaggtgc agcattgcca ctactgtggc ggctccggca tggaaaccat      180
caacacaggg ccttttgtga tgcgttccac gtgtaggaga tgtggtggcc gcggtccat      240
catcatatcg ccctgtgtgg tctgcagggg agcaggacaa gccaagcaga aaaagcgagt      300
gatgatccct gtgcctgcag gagtcgagga tggccagacc gtgaggatgc ctgtgggaaa      360
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ctacatccac atcaagatac gaggtaacaa gaggttaacg agccggcagc agagcctgat      660
cctgagctac gccgaggacg agacagatgt ggaggggacg gtgaacggcg tcaccctcac      720
cagctctggg ggcagacca tggatagctc cgcaggaagc aaggctaggc gtgaggctgg      780
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<212> DNA

<213> Shigella Flexneri

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gagctggagg ctgtatacga acggctctgc ggcgaggaga aagtgggtgga gagagagctg      180
gatgctcttt tggaacagca aaacaccatt gaaagtaaga tggtcactct ccaccgaatg      240
ggtcctaata tgcagctgat tgaggagat gcaaagcagc tggctggaat gatcaccttt      300
acctgcaacc tggctgagaa tgtgtccagc aaagttcgtc agcttgacct ggccaagaac      360

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tcaagagttt tgccagtttg caccattttg taaatgtgtt ttagcatctc ttatctgact 240
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ccatgtantn gttgtacatg ttcatgnggg ctggntnnc tnnntttct atngntcatt	180
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<210> 62

<211> 2170

<212> DNA

<213> Shigella Flexneri

<400> 62

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<211> 1503

<212> DNA

<213> Shigella Flexneri

<400> 63

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ccttatggac caactttcac tactgggtgat gtcattggct gttgtgttaa tcttatcaac	180
aatacctgct tttaacacaa gaatggacat agtttaggta ttgctttcac tgacctaccg	240
ccaaatttgt atoctactgt ggggcttcaa acaccaggag aagtggtcga tgccaatttt	300
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tacccaagtt tacttgaaag aaatccta atccttttca cattaaaagt gcgtcagttt	660
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aatctgccaa agcaacctcc acttgcccta gcaatgggac aggccacaca atgtctagga	1440
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<210> 64

<211> 1294

<212> DNA

<213> Shigella Flexneri

<400> 64

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tgatgacaaa ggtgcctaca gtgttgggccc cctgcacagt gacctggagt acacggtgac	180
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tgtgtaccac gttcagctca aggcagaagg caacgaccac attgagcggg cgctccccca	720
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<210> 65

<211> 3418

<212> DNA

<213> Shigella Flexneri

<400> 65

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cgatttgagc agcataaagg atgcagtcct gagctgtgct gtggcatatg acaaagaagg	180
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ggctgtccaa gaaggactaa agtgtgagct acagaggaag ctggcggagc tgcaggtgta	360
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<211> 297

<212> DNA

<213> Shigella Flexneri

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<223> misc_feature

<400> 66

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<210> 67

<211> 299

<212> DNA

<213> Shigella Flexneri

<220>

<221> misc_feature

<222> (296)..(296)

<223> misc_feature

<400> 67
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<210> 68

<211> 2119

<212> DNA

<213> Shigella Flexneri

<400> 68
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<210> 69

<211> 286

<212> DNA

<213> Shigella Flexneri

<400> 69

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agtccttcct ggctatgtgg catcatgtct ttaaagcagg gagagtaaag tatcaatatt 180
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<210> 70

<211> 76

<212> DNA

<213> Shigella Flexneri

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<210> 71

<211> 291

<212> DNA

<213> Shigella Flexneri

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<223> misc_feature

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<213> Shigella Flexneri

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<211> 4468

<212> DNA

<213> *Shigella Flexneri*

<400> 84

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4468

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117

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<213> Shigella Flexneri

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<210> 91

<211> 1525

<212> DNA

<213> Shigella Flexneri

<400> 91

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caagcgcacg aacgccatca acatcggcct aaccacactg ccacctgtgc atgtcattaa	180
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<211> 949

<212> DNA

<213> Shigella Flexneri

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<211> 294

<212> DNA

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<211> 299

<212> DNA

<213> Shigella Flexneri

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<211> 1486

<212> DNA

<213> Shigella Flexneri

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<211> 836

<212> DNA

<213> Shigella Flexneri

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<210> 97

<211> 960

<212> DNA

<213> Shigella Flexneri

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<210> 98

<211> 871

<212> DNA

<213> Shigella Flexneri

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<211> 3286

<212> DNA

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<210> 100

<211> 479

<212> DNA

<213> Shigella Flexneri

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<212> DNA

<213> Shigella Flexneri

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tagtcacctg cagcctgggg atcacctgac tgacatcacc ttaaagggtg caggtaggat	240
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agcacaggaa gaaatgcttc ggaaggaacg agagctggaa gaggcgcgga agaaactggc 2040
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 catttenagn cacncatata ataccacntg cntgngtgat ttnttttttn ganntgccaa 240
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947

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gtgaagtcta gggacaggaa gatggttggc gacgtgaccg gggcccaggc ctatgcctcc	240
accgccaagt gcctgaacat ctggggccctg attctgggca tcctcatgac cattggattc	300
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<212> DNA

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tgtgggttatt ctgttggttt tggaagtcga aacccccaga agaccaccct actgcccagt	180
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ttggtagaca tcagcaacaa cctcaaaatc aatcaatatc cagaatctaa tgcagagtac	360
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 tccattccaa atcgtatctt tccaataaca gcacottaca ctgcttgctt tggtttacct 780
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<212> DNA

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 gcagaaagtg aagaacaatg acctccggga gaagaactgg aaggccatgg aggcactggc 180
 cacggccgag caggcctgca aggagaagct gcactcoctg acccaggcca aggaggaatc 240
 ggagaagcag ctctgtctga ttgaggcgca gaccatggag gccctgctgg ctctgctccc 300
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<211> 197

<212> DNA

<213> Shigella Flexneri

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<400> 115

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agtanatgcc acatctatga ggctgnngcn gcatactcgc cgtgtctanc tacatcctng 180

ttannggntg nggcccgnnc ggttctncc gattntgttc nggncacagc ctggtgtntg 240

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ctggtgggga ggctggaagg 320

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<211> 562

<212> DNA

<213> Shigella Flexneri

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tgaccgtaca cgtgttatgg agtatattaa ccgcctggat aattatgatg cccagatat 180
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tgatgtcaat acttcagcag ttcaggctct aattgagcat attggaaact tggatcgggc 300
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gttcgagaaa ggaatggtga aagaagccat tgattcttat atcaaagcag atgaccttc 420
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<211> 1645

<212> DNA

<213> Shigella Flexneri

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tgcagtgggt gctgcctcca agaccctgag ccacccgcag cagatggcac tcctggacca 180
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<212> DNA

<213> Shigella Flexneri

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<212> DNA

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gattcaggat caggcccggg aactgtctta cctacggcaa aaaatacgag aaggagagg	180
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gaaagtgatt gaagtcctgc aggccaagct ggatgctcgg tccctcacac cctccagcag	480
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<213> Shigella Flexneri

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<211> 607

<212> DNA

<213> Shigella Flexneri

<400> 122

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tgatgcaaac acaactcagt tcaagaggct gaaagagatg aacgagaggg agaagaagga	180
gctgcagaag atcctggaca gaaagcgcca taacagcatc tcggaggcca agatgaggga	240
caagcataag aaggaggcgg aactgacgga gattaaccgt cggcacatca ctgagtcagt	300
caactccatc cgtcggctgg aggaggccca gaagcagcgg catgaccgtc ttgtggctgg	360
gcagcagcag gtcttgcaac agctggcaga agaggagccc aagctgctgg ccagctggc	420
ccaggagtgt caggagcagc gggcgaggct cccccaggag atccgccgga gcctgctggg	480
cgagatgccg gaggggctgg gggacgggcc tctggtggcc tgtgccagca acggtcacgc	540

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gctctga 607

<210> 123

<211> 713

<212> DNA

<213> Shigella Flexneri

<400> 123

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cggcttctct gtgttgatga gggccatgca gcagcagggtg cagaagctca aggtcaaate 660
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<210> 124

<211> 443

<212> DNA

<213> Shigella Flexneri

<400> 124

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<210> 125

<211> 845

<212> DNA

<213> Shigella Flexneri

<400> 125

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 tttggattct gaactggaaa tcgcaaatga tccagacaaa ataaaaacac aacttgcaca 180
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<210> 126

<211> 1721

<212> DNA

<213> Shigella Flexneri

<400> 126

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cacagtggaa acagtcaaca aagctggcaa tgagcttctt gaatccagt ctggagatga	180
tgccagcagc ttaaggagcc gtttggaagc catgaaccaa tgctgggagt cagtgttaca	240
gaaaacagag gagagggagc agcagcttca gtcaactctg cagcaggccc agggttcca	300
cagtgaaatt gaagatttcc tcttggaact tactagaatg gagagccagc tttctgcac	360
taagcccaca ggaggacttc ctgaaactgc tagggaacag cttgatacac atatggaact	420
ctattcccag ctgaaagcca aggaagagac ttataatcaa ctacttgaca agggcagact	480
catgcttcta agccgtgacg actctgggtc tggctccaag acagaacaga gtgtagcact	540
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<210> 127

<211> 775

<212> DNA

<213> Shigella Flexneri

<400> 127

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 agacatttgg tttgaggaga agctccagga ggtagagtgt gaggagcagc gcttacggaa 180
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 gctgcagcag gccaaggacg agatcctcga gtgggagtct cgggtgactc aatatgaaag 600
 ggacttcgag aggatttcaa cagtggccg aaaagaagtg atacggtttg agaaagagaa 660
 atccaaggac ttcaagaacc acgtgatcaa gtaccttgag acactccttt actcacagca 720
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<210> 128

<211> 1617

<212> DNA

<213> Shigella Flexneri

<400> 128

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agaagtgcct	ttagaagctg	ctattgatct	tagtaaaaag	ggccttgatg	ttaaaagtga	180
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<210> 129

<211> 4525

<212> DNA

<213> Shigella Flexneri

<400> 129

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tgcacctctg gctgatgatt cctctgattt tcagtttcac ttcttgaaaa gtggtggcct	180
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catgacacag atcaaccaag ttacccatga tcaagcagtg gtgctacaaa gtgcccttca	420
gagcattcct aatccatcat ccgagtgcag gcttagaaat gtgtcagttc gtcttgctca	480
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<210> 130

<211> 594

<212> DNA

<213> Shigella Flexneri

<400> 130

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gatccagaag gcagatggca ctgccactgc tcctccccca aggtctaatac atgccgcaga	180
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taccattttg ggtcttccca atctgcccac tgactttccc acatctgctg cctgtcaggc	480
tggtgcaggt gtctgcaaata ccatattgac actgtcacat gaacccaaaag tccttcaaga	540
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<210> 131

<211> 620

<212> DNA

<213> Shigella Flexneri

<400> 131

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ccttatggac caactttcac tactgggtgat gtcattggct gttgtgttaa tcttatcaac	180
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gccagatcta cagaccagac cgttctagaa gaattagctt ccattaagaa tagacaaaga	540
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<210> 132

<211> 370

<212> DNA

<213> Shigella Flexneri

<400> 132

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<210> 133

<211> 345

<212> DNA

<213> Shigella Flexneri

<400> 133

ctgttcatga agagtgagcg acacgcagcc gaggcacagc tggccacagc agagcagcag	60
ctacgggggc tacggaccga ggcggaaagg gctcgccagg ccagagccg ggcccaggag	120
gctctggaca aggccaagga gaaggacaag aagatcacag aactctcaa agaagtcttc	180
aatcttaagg aagccttgaa ggagcagccg gccgccctcg ccacccctga ggtggaggct	240
ctccgtgacc aggtgaagga ttacagcag cagctgcagg aagctgccag ggaccactcc	300
agcgtggtgg ctttgtacag aagccacctc ctatatgcc a ttcag	345

<210> 134

<211> 795

<212> DNA

<213> Shigella Flexneri

<400> 134

tgaccaactt gtgttgatat ttgctggaaa aattttgaaa gatcaagata ccttgagtca	60
gcatggaatt catgatggac ttactgttca ccttgtcatt aaaacacaaa acaggcctca	120
ggatcattca gctcagcaaa caaatacagc tggaagcaat gttactacat catcaactcc	180
taatagtaac tctacatctg gttctgctac tagcaaccct tttggtttag gtggccttgg	240
gggacttgca ggtctgagta gcttgggttt gaatactacc aacttctctg aactacagag	300
tcagatgcag cgacaacttt tgtctaacct tgaaatgatg gtccagatca tggaaaatcc	360
ctttgttcag agcatgctct caaatcctga cctgatgaga cagttaatta tggccaatcc	420
acaaatgcag cagttgatac agagaaatcc agaaattagt catatgttga ataatccaga	480
tataatgaga caaacgttgg aacttgccag gaatccagca atgatgcagg agatgatgag	540
gaaccaggac cgagctttga gcaacctaga aagcatccca gggggatata atgctttaag	600
gcgcatgtac acagatattc aggaaccaat gctgagtgct gcacaagagc agtttggtgg	660
taatccattt gcttccttgg tgagcaatac atcctctggt gaaggtagtc aaccttcccg	720
tacagaaaat agagatccac tacccaatcc atggggtcca cagacttccc agagttcatc	780
agcttccagc ggcac	795

<210> 135

<211> 1096

<212> DNA

<213> Shigella Flexneri

<400> 135

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tacaccagct accaacacca cttgtacagc cacgggtcca ccacagccac agtacagcta	120
ccacgacatc aatgtctatt ccttgcgagg cttggcacca cacattactc taaatccaac	180
aattcccttg tttcaggccc atccacagtt gaagcagtggt gtgcgtcagg caattgaacg	240
ggctgtccag gagctggtcc atcctgtggt ggatcgatca attaagattg ccatgactac	300
ttgtgagcaa atagtcagga aggattttgc cctggattcg gaggaatctc gaatgcgaat	360

agcagctcat cacatgatgc gtaacttgac agctggaatg gctatgatta catgcaggga 420
 acctttgctc atgagcatat ctaccaactt aaaaaacagt ttgcctcag cccttcgtac 480
 tgcttcccca caacaaagag aaatgatgga tcaggcagct gctcaattag ctcaggacaa 540
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 ggacaagaga ttagcaactg aatttgagct gagaaaacat gctaggcaag aaggacgcag 660
 atactgtgat cctgttggtt taacatatca agctgaacgg atgccagagc aaatcaggct 720
 gaaagttggt ggtgtggacc caaagcagtt ggctgtttac gaagagtttg cacgcaatgt 780
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 tcgaagtctc ttggagggtg tagttttatc tcgaaactct cgggatgcca tagctgctct 1020
 tggattgctc caaaaggctg tagagggctt actagatgcc acaagtgggtg ctgatgctga 1080
 ccttctgctg cgctac 1096

<210> 136

<211> 412

<212> DNA

<213> *Shigella Flexneri*

<400> 136

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 gctccgcatc tcctgctgc tcatcgagtc gtggctggag cccgtgcggt tcctcaggag 120
 tatgttcgcc aacaacctgg tgtatgacac ctccggacagc gatgactatc acctcctaaa 180
 ggacctagag gaaggcatcc aaacgctgat ggggaggctg gaagacggca gccgccggac 240
 tgggcagatc ctcaagcaga cctacagcaa gtttgacaca aactcgaca accatgacgc 300
 actgctcaag aactacgggc tgctctactg cttcaggaag gacatggaca aggtcgagac 360
 attcctgcgc atggtgcagt gccgctctgt ggagggcagc tgtggcttct ag 412

<210> 137

<211> 277

<212> DNA

<213> Shigella Flexneri

<400> 137

gcagcagtct ctgtgctgaa acccttctcc aagggcgcg cttctacctc cagccctgca	60
aaagccctac cacaggtgag agacagatgg aaagacttaa cccacgctat ttccatttta	120
gaaagtgcaa aggctagagt taaaaatacg aagacgtcta aaccaatcgt acatgccaga	180
aaaaaatacc gctttcacaa aactcgctcc cacgtgaccc acagaacacc caaagtcaaa	240
aagagtccaa aggtcagaaa gaaaagttat ctgagta	277

<210> 138

<211> 726

<212> DNA

<213> Shigella Flexneri

<400> 138

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caacatcagc ctgatgaaag gcggtctcaa ggagtactgg tttgtgctga ctgccgagtc	120
actgtcctgg tacaaggatg aggaggagaa agagaagaag tacatgctgc ctctggacaa	180
cctcaagatc cgtgatgtgg agaagggtct catgtccaac aagcacgtct tcgccatctt	240
caacacggag cagagaaacg tctacaagga cctgcggcag atcgagctgg cctgtgactc	300
ccaggaagac gtggacagct ggaaggcctc gttcctccga gctggcgtct accccgagaa	360
ggaccaggca gaaaacgagg atggggccca ggagaacacc ttctccatgg acccccaact	420
ggagcggcag gtggagacca ttcgcaacct ggtggactca tacgtggcca tcatcaacaa	480
gtccatccgc gacctcatgc caaagaccat catgcacctc atgatcaaca atacgaaggc	540
cttcatccac cagcagctgc tggcctacct atactcctcg gcagaccaga gcagcctcat	600
ggaggagtcg gctgaccagg cacagcggcg ggacgacatg ctgcgcatgt accatgccct	660
caaggaggcg ctcaacatca tcggtgacat cagcaccagc actgtgtcca cgctgtacc	720
cccgcc	726

<210> 139

<211> 629

<212> DNA

<213> Shigella Flexneri

<400> 139

ccagaagcag ctggagtcca ataagatccc agagctggac atgactgagg tggtagggccc	60
cttcatggcc aacatccctc tctcctcta ccctcaggac ggcccccgca gcaagcccca	120
gccaaaggat aatgggggacg tttgccagga ctgcattcag atggtagactg acatccagac	180
tgctgtacgg accaactcca cctttgtcca ggccttggtg gaacatgtca aggaggagtg	240
tgaccgcctg ggccctggca tggccgacat atgcaagaac tatatcagcc agtattctga	300
aattgctatc cagatgatga tgcacatgca acccaaggag atctgtgagc tggttgggtt	360
ctgtgatgag gtgaaagaga tgcccatgca gactctggtc cccgccaaag tggcctccaa	420
gaatgtcatc cctgccctgg aactgggtgga gcccatgaag aagcacgagg tcccagcaaa	480
gtctgatgtt tactgtgagg tgtgtgaatt cctgggtgaag gaggtgacca agctgattga	540
caacaacaag actgagaaaag aaatactcga cgcttttgac aaaatgtgct cgaagctgcc	600
gaagtccttg tcggaagagt gccaggagg	629

<210> 140

<211> 758

<212> DNA

<213> Shigella Flexneri

<400> 140

tgcagcctta gtggcatcta aagtatttta tcacctgggg gcttttgagg agtctctgaa	60
ttatgctctt ggagcaaggg acctcttcaa tgtcaatgat aactctgaat atgtggaaac	120
tattatagca aaatgcattg atcactacac caaacaatgt gtggaaaatg cagatttgcc	180
tgaaggagaa aaaaaaccaa ttgaccagag attggaaggc atcgtaaata aaatgttcca	240
gcgatgtcta gatgatcaca agtataaaca ggctattggc attgctctgg agacacgaag	300
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gtttttgtca tctgtaatcc agaactctcg aactgttggc acccctattg cttctgtgcc	660
tggatccact aatacgggta ctgttccggg atcagagaaa gacagtgact cgatggaaac	720
agaagaaaag acaagcagtg catttgtagg aaagacac	758

<210> 141

<211> 433

<212> DNA

<213> Shigella Flexneri

<400> 141

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ctgttctgtg tgtgaggccc cggccatcgc catcgcggtc cacagtcagg atgtctccat	120
cccacactgc ccagctgggt ggcggagttt gtggatcga tttccttcc tcatgcacac	180
ggcggcggga gacgaaggcg gtggccaatc actggtgtca ccgggcagct gtctagagga	240
cttccgcgcc acaccattca tcgaatgcaa tggaggccgc ggcacctgcc actactacgc	300
caacaagtac agcttctggc tgaccaccat tcccagcag agcttccagg gctcgccctc	360
cgccgacacg ctcaaggccg gcctcatccg cacacacatc agccgctgcc aggtgtgcat	420
gaagaacctg tga	433

<210> 142

<211> 365

<212> DNA

<213> Shigella Flexneri

<400> 142

aagatcaagt ggcttacctt atccaacaaa atgttatccc acctttttgc aacttgtga	60
ctgtaaaaaga tgcacaagtt gtgcaagtag tactcgatgg actaagtaat atattaaaaa	120

tggtgaaga tgaggcagaa accataggca atcttataga agaattgtga gggctggaga	180
aaattgaaca acttcaaaat catgaaaatg aagacatcta caaattggcc tatgagatca	240
ttgatcagtt cttctcttca gatgatattg atgaagaccc tagccttggt ccagaggcaa	300
ttcaaggcgg aacatttggt ttcaattcat ctgccaatgt accaacagaa gggttccagt	360
tttag	365

<210> 143

<211> 4612

<212> DNA

<213> Shigella Flexneri

<400> 143	
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tcagagaaaa cctaaccgt tagccaatag taacactagt ggatattcag agtcaaagaa	1080
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aaaactgttg atagcagcaa gagaaggcca gcagtcgttc catctttcct ga 4612

<210> 144

<211> 1539

<212> DNA

<213> Shigella Flexneri

<400> 144

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 actactgtcc agcccggcgg cagtgtgagg ctcggtctc 1539

<210> 145

<211> 476

<212> DNA

<213> Shigella Flexneri

<400> 145
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 ccttatggac caactttcac tactgggtgat gtcattggct gttgtgttaa tcttatcaac 180
 aatacctgct ttacaccaa gaatggacat agtttaggta ttgctttcac tgacctaccg 240
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 caggcacaga tagatcgatt tcctatcgga gatcgagaag gagaatggca gaccatgata 420
 caaaaaatgg tttcatctta tttagtccac catgggtact gtgccacagc agaggc 476

<210> 146

<211> 393

<212> DNA

<213> Shigella Flexneri

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ttatgggttg gaagattaat tctgtattcc tcagttctct atctgtttac atgcttaatt 180
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<210> 147

<211> 1257

<212> DNA

<213> Shigella Flexneri

<400> 147

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<210> 148

<211> 1389

<212> DNA

<213> Shigella Flexneri

<400> 148

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<210> 149

<211> 494

<212> DNA

<213> Shigella Flexneri

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atcgcgcgca ccagctggcc attgacacct accaggagtt tgaagaaacc tatatcccaa 180
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ccaacaacct ggtgtatgac acctcggaca gcgatgacta tcacctccta aaggacctag 420
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<210> 150

<211> 650

<212> DNA

<213> Shigella Flexneri

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 ccctcctcct tcaggcattg ctactctggt ctctggcatt gctggtgaag aacagcagcg 480
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<210> 151

<211> 933

<212> DNA

<213> Shigella Flexneri

<400> 151

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 ctttatattt ctgaagttca gctgaacacc atggctggag ccagtgtcaa ccgagtagtg 180
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 acaactatag catatccaca tgttgtaaga acaagactac gtgaagaggg aacaaaatac 780
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<210> 152

<211> 666

<212> DNA

<213> Shigella Flexneri

<400> 152

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 aagttaaaca tgctcagcat tgatcatctc acagaccaca agtcacagcg ccttgcacgt 240
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 aaggctctgc caagaaatat tgctgttcct tactgccaac tctccaagaa actggaactg 360
 cctcctatct tggtttatgc agactgtgtc ttggcaaact ggaagaaaaa ggatcctaata 420
 aagcccctga cttatgagaa catggacggt ttgttctcat ttcgtgatgg agactgcagt 480
 aaaggattct tcttggtctc tctattgggtg gaaatagcag ctgcttctgc aatcaaagta 540
 attcctactg tattcaaggc aatgcaaagt caagaacggg acactttgct aaaggcgctg 600
 ttggaaatag cttcttgctt ggagaaagcc cttcaagtgt ttcaccaaata ccacgatcat 660
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<210> 153

<211> 280

<212> DNA

<213> Shigella Flexneri

<220>

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<400> 153

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gaatccgatt tgtctgcact nnnntnccnc ntctnccctn ttntatgtgn gtgcagcggt 180

tacnctactn cantctgant gtacttantg gtnatcttnc ntgcnnittgn ggntggngan 240

ggtgntcgc n tttttnttct gtgtaccnng nngggggggg 280

<210> 154

<211> 475

<212> DNA

<213> Shigella Flexneri

<400> 154

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 tgatgaggaa gcagaaaact tggtagccac agtgggccct acccatctgg cagctgctgt 180
 gcctgaggtg gctgtttacc taaaggagtc agtgggggaa tccacgcgca ttgactacgg 240
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 gcggaaactc cagaaaacat acaggatgga gccagccggc agccagggag tgtgggggtct 420
 ggatgacttc cagtttctgc ccttcactctg gggcagttcg cagctgatag accac 475

<210> 155

<211> 276

<212> DNA

<213> Shigella Flexneri

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<222> (87)..(87)

<223> misc_feature

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 taattcccag gctaaatttc gagccctagg aaacctgggc gatataattca tctgtaaaaa 180
 agatataaat ggtgcaataa aattctatga gcagcaactg ggcttagctc accaggtaaa 240
 ggacagaaga ttagaagcca gtgcatatgc agccct 276

<210> 156

<211> 985

<212> DNA

<213> Shigella Flexneri

<400> 156
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 ccaagatcta aagatctttt cccattcttt tggtgggaga aggatgccac tctggtgctg 240
 gagccactct aacggcagtg ctcttgtagc aatggccctc atcaaagacg tgctgcagca 300
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 tgtttacaaa tcagatttgg ataagacctt gcctaattt caagaagtac aagcagcatt 420
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 atcttcactg gaaaatactc gatggttaga atatgtaagg gcattcctta agcattcagc 540
 agaacttgta tacatgctag aaagcaaaca tctctctgta gtccacaaag aggaggaagg 600
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 ctacctggca gtgttgtagt acagcaccgc gatctcactg tttggcacct tctgttcaa 900
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<210> 157

<211> 493

<212> DNA

<213> Shigella Flexneri

<400> 157
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 gctagcccga actgacttca gcagctaccc caaaccaatc aagggtttgt ttacgggagt 480
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<210> 158

<211> 748

<212> DNA

<213> Shigella Flexneri

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 cctatgcttt caagggggac tatgtgtgga ctgtatcaga ttcaggaccg ggccccttgt 660
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<210> 159

<211> 876

<212> DNA

<213> Shigella Flexneri

<400> 159

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aatcgggttag acttctcaag tgcaattcaa gatatccgaa cgttcaatta tgtgggtcaaa      180
ctgttgacgc taattgcaaa atcccagtta acttcattga gtggcgtggc acagaagaat      240
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ttaatcaaag atcttctgca agacctaagc tctaccctct gcattcttat tagaggagta      360
gggaagtctg tattagtggg aaacatcaat atttgattt gccgattaga aactattctc      420
gcctggcaac aacagctaca ggatcttcag atgactaagc aagtgaacaa tggcctcacc      480
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ccagcgaagg agcagtacgg agacacactg catttctgtc ggcaactgcag cattctcttt      780
tggaaggact caggacaccc ctgcacggcg gccgaccctg acagctgctt cacgcctgtg      840
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<210> 160

<211> 400

<212> DNA

<213> Shigella Flexneri

<400> 160

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tctcctccat ggtccagacc tccccagcat ttacccttca ttcacctatt accgttcagg      180
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aattaatggg aagtttcagc tatcaggaca aaagctctct atccccaaa taactacaaa      300
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<210> 161
 <211> 259
 <212> DNA
 <213> Shigella Flexneri

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 aacttatcat ataacaaaat cagcaaaatt gaaggcatag aaaatatgtg taatctgcaa 180
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 <212> DNA
 <213> Shigella Flexneri

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<210> 163

<211> 641

<212> DNA

<213> Shigella Flexneri

<400> 163

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atggaaagga gtgcgctgga agcggcttcg gctgctgctg accatccaga agggcagtgg      180
acggcaggag gatgagcggg aagtggcaga gtttatggag cagcttggca cagccttgcg      240
acctgacaag gtaccgcgag acatgcgtcg ctgctgtttc tgtcatgagg agggtgacgg      300
ggccactgat gggcctgccc gtctgctgaa cctggacctg gacctgtggg tgcacctcaa      360
ctgtgccctt tgggccacgg aggtgtatga gaccagggc ggagcactga tgaatgtgga      420
ggttgccctg caccgaggac tgctaaccaa gtgctccctg tgccagcgaa ctggtgccac      480
cagcagctgc aatcgcatgc gttgccccaa tgtctaccat tttggttggt ccatccgcgc      540
caagtgcatt ttcttcaagg acaagaccat gctgtgtcca atgcataaga tcaagggggc      600
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<210> 164

<211> 669

<212> DNA

<213> Shigella Flexneri

<400> 164

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tggtcggaaa gagattgaca taaaaaaata tgcaagagtg gaaaagatac ctggaggcat      180
cattgaagac tcctgtgtct tgcgtggagt catgattaac aaggatgtga cccatccacg      240
tatgcggcgc tatatcaaga accctcgcat tgtctgctg gattcttctc tggaatacaa      300
gaaaggagga agccagactg acattgagat tacacgagag gaggacttca cccgaattct      360
ccagatggag gaagagtaca tocagcagct ctgtgaggac attatccaac tgaagccoga      420

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tgtgggtcatc actgaaaagg gcatctcaga tttagctcag cactacctta tgcggggccaa 480
 tatcacagcc atccgcagag tccggaagac agacaataat cgcattgcta gagcctgtgg 540
 ggccccggata gtcagccgac cagaggaact gagagaagat gatgttggaa caggagcagg 600
 cctgttggaa atcaagaaaa ttggagatga atactttact ttcactactg actgcaaaga 660
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<210> 165

<211> 866

<212> DNA

<213> Shigella Flexneri

<400> 165
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 acaatccagg gtctgagggc gaatctcacc agtgccatag aaaccctgtg tgggtgtggac 180
 tcctctgtgg cagtgtcctc tggcgggggag ctcttctctc gcttcatcag tcttgccctc 240
 ctggaatact ccgattactc caaatgtaaa aagatcatga ttgagcgggg agaacttttt 300
 ctgaggagaa tatcactgtc aagaaacaaa attgcagatc tgtgccatac tttcatcaaa 360
 gatggagcga caatattgac tcacgcctac tccagagtgg tcctgagagt cctggaagca 420
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 ggtaagaaaa tggccaaagc cctctgccac ctcaacgtcc ctgtcactgt ggtgctagat 540
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 gttgaaaacg gaggaattat taacaagatt ggaaccaacc agatggctgt gtgtgccaaa 660
 gcacagaaca aacctttcta tgtggttgca gaaagtttca agtttgtccg gctctttcca 720
 ctaaaccagc aagacgtccc agataagttt aagtataagg cagacactct caaggctcgc 780
 cagactggac aagacctcaa agaggagcat ccgtgggtcg actacactgc cccttcctta 840
 atcactctgc tgtttacaga cctggg 866

<210> 166

<211> 581

<212> DNA

<213> Shigella Flexneri

<400> 166

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acgtggtacc gcagctcgag gggcgagggtg cagacctgct cagagcgccg gcccatccgc      180
aacctcacgt tccaggacct tcacctgcac catggaggcc accaggctgc caacaccagc      240
cacgacctgg ctcagcgcca cgggctggag tcggcctccg accaccatgg caacttctcc      300
atcaccatgc gcaacctgac cctgctggat agcggcctct actgctgcct ggtggtggag      360
atcaggcacc accactcgga gcacagggtc catggtgccca tggagctgca ggtgcagaca      420
ggcaaagatg caccatccaa ctgtgtggtg taccatcct cctcccagga tagtgaaaac      480
atcacggctg cagccctggc tacgggtgcc tgcacgtag gaatcctctg cctccccctc      540
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<210> 167

<211> 569

<212> DNA

<213> Shigella Flexneri

<400> 167

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aggaactcca aagacattgt caaccgattc tattcagtac caccttcaga tggaggataa      180
gaatggacgg tttgtatccc tatacagagg accatgtcat acatacaaag taaaaagact      240
taatgagtca acatcctata aattctgtat tcaagcttgt aatgaagctg gggaagggtc      300
cctctcccaa gaatatattt tcactactcc aaaatctgtc ccagctgcct tgaaagcccc      360
caaaatagag aaagtaaagt atcacatttg tgaaattaca tgggagtgtt tacagccaat      420
gaaagggtgat ccagttattt acagtcttca agttatgttg ggaaaagatt cagaattcaa      480
acagatttac aagggtcccc actcttcctt ccggtattcc agccttcagc tgaactgtga      540
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atatcgcttc cgtgtatgtg ccattcgcc

569

<210> 168

<211> 1327

<212> DNA

<213> Shigella Flexneri

<400> 168

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gcttgaggca gccctaggtg aggccaagaa gcaacttcag gatgagatgc tgcggcggggt	180
ggatgctgag aacaggctgc agaccatgaa ggaggaactg gacttcaga agaacatcta	240
cagtgaggag ctgcgtgaga ccaagcgccg tcatgagacc cgactggtgg agattgacaa	300
tgggaagcag cgtgagtttg agagccggct ggcggatgcg ctgcaggaac tgcggggccca	360
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ggacaccagc cggcggtgc tggcggaaaa ggagcgggag atggccgaga tgcgggcaag	660
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cagccctacc tcgcagcgca gccgtggccg tgcttcctct cactcatccc agacacaggg	840
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acagcacgca cgcactagcg ggcgcgtggc cgtggaggag gtggatgagg agggcaagtt	960
tgtccggctg cgcaacaagt ccaatgagga ccagtccatg ggcaattggc agatcaagcg	1020
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cctgggtgtg aaggcacaga acacctgggg ctgcgggaac agcctgcgta cggctctcat	1200
caactccact ggggaagaag tggccatgcg caagctgggtg cgctcagtga ctgtggttga	1260
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ccgctga

1327

<210> 169

<211> 1438

<212> DNA

<213> Shigella Flexneri

<400> 169

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cggggtggag aatgtgtttc agctttttac ttgtgccctt ctggagtttc aaatcctgct	180
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gattctcatg gcatttggaa ttccccctga agggaatctt cattgcagtg agagtgcctc	540
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cagcaataag gatctcaaag ttcagtgtga tgaagaagaa ctcaggattt accagctaaa	780
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<210> 170

<211> 274

<212> DNA

<213> Shigella Flexneri

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<223> misc_feature

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<222> (203)..(203)

<223> misc_feature

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<222> (268)..(269)

<223> misc_feature

<400> 170

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ttatttgata caagtgccat ttcaaatacag caagggaatt gggccaattt gttatccatt	180
ttgaaaacat atnaagtttg atncctacnt gacaacgtnc tntnaaatgg gtgggaggtg	240
gatnggncat gtgggtgtna ngcgggtgnng gcgg	274

<210> 171

<211> 895

<212> DNA

<213> Shigella Flexneri

<400> 171

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gcagatgcgg cagctccagc tgcagaacca ggagttgctg agggcaatga tgaagaaggc	180
cgagctggaa atcagtggca aagtgatgga aacaatgaag agactggagg atcccgtgca	240
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cactgatggg ctcttgaaag gcacggacgc agcccaagcc gcacagtaca tggctatgga	660

aaaggccaca gccgcagaag tctgaagag tcaggaggag gcagcccaca cctccggcca 720
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 catgatgggt cgccacgcgc agagctcccc tgtggtcatc cagccctccc agcactccgt 840
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<210> 172

<211> 268

<212> DNA

<213> Shigella Flexneri

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 cacagacaac ggggcttcca actcagagaa aaacaagccc ctggagcagt ctgtggaaga 180
 cctcagcaag ggtccaccct cctccgtgcc caaaagccgc cacctgacca tcaagctgac 240
 cccagcccac agcaggaagg ccctgcgg 268

<210> 173

<211> 642

<212> DNA

<213> Shigella Flexneri

<400> 173
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 ggtgatgcat gccagatcgg gaggcaattt ggaagtgatg ggtctgatgc taggaaaggt 120
 ggatggtgaa accatgatca ttatggacag ttttgctttg cctgtggagg gcactgaaac 180
 ccgagtaaat gctcaggctg ctgcatatga atacatggct gcatacatag aaaatgcaaa 240
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 agtctcatat ttcaaactct ctttggatcg caaattgctt gagctgttgt ggaataaata 600
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<210> 174

<211> 1317

<212> DNA

<213> Shigella Flexneri

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<210> 175

<211> 450

<212> DNA

<213> Shigella Flexneri

<400> 175
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<210> 176

<211> 271

<212> DNA

<213> Shigella Flexneri

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 gtgtagattt atttctgggt tctctatcct gttctgttgg tctatatgtc tgttttcatg 180
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<210> 177

<211> 238

<212> DNA

<213> Shigella Flexneri

<400> 177
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 ccagtgggga gaagatggcc gtccatttca ctatctcttc tatactggca aacagtcata 180
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<210> 178

<211> 786

<212> DNA

<213> Shigella Flexneri

<400> 178

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gataccagca tcctgtactg ctatgaagca tcccttccac atcagatcaa agacatctta	720
aagccagaaa taatggagga gattgtgatg gaaacacgcc agaggctttt ggaacaggag	780
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<210> 179

<211> 996

<212> DNA

<213> Shigella Flexneri

<400> 179

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gactgttcta gaaaaactgg aaggagagtt acaggaagcc aaccagaacc agcaggcctt	240
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<211> 2716

<212> DNA

<213> Shigella Flexneri

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<213> Shigella Flexneri

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agaagtggca acaaagaatg tcctacctgt cggaaaaaac tagtttccaa aagatcacta	300
aggccagacc caaactttga tgcactcatc agcaaaatth atccaagtcg tgatgagtat	360
gaagctcatc aagagagagt attagccagg atcaacaagc acaataatca gcaagcactc	420
agtcacagca ttgaggaagg actgaagata caggccatga acagactgca gcgaggcaag	480
aaacaacaga ttgaaaatgg tagtggagca gaagataatg gtgacagtth acactgcagt	540
aatgcatcca cacatagcaa tcaggaagca ggccctagta acaaacggac caaaacatct	600
gatgattctg ggctagagct tgataataac aatgcagcaa tggcaattga tccagtaatg	660
gatggtgcta gtgaaattga attagtattc aggcctcatc ccacacttat ggaaaaagat	720
gacagtgcac agacgagata cataaagact tctggtaacg ccactgttga tcacttatcc	780
aagtatctgg ctgtgagggtt agcttttagaa gaacttcgaa gcaaagggtga atcaaaccag	840
atgaaccttg atacagccag tgagaagcag tataccatth atatagcaac agccagtggc	900
cagttcactg tattaaatgg ctctttttct ttggaattgg tcagtggagaa atactggaaa	960
gtgaacaaac ccatggaact ttattacgca cctacaaagg agcacaaatg a	1011

<210> 186

<211> 893

<212> DNA

<213> *Shigella Flexneri*

<400> 186

atgtccaagc ggcaccggtt ggacctaggg gaggattacc cctctggcaa gaagcgtgcg	60
gggaccgatg ggaaggatcg agatcgagac cgggatcgtg aagatcggtc taaagatcga	120
gaccgagaac gtgatagagg agatagagag cgagagaggg agaaagaaaa ggagaaggag	180
ttgcgagctt caacaaatgc tatgcttatt agtgctggat taccaccctt gaaagcttcc	240
cattcagctc actcaacca ctcagcacat tcaacgcatt ctacacattc tgctcattca	300
acgcatgccg gacatgcagg tcacacgtca cttccacagt gcattaatcc gttcaccaac	360

ttacccata ctctcgata ctatgatatt ctaaagaaac gtcttcagct ccctgtttgg	420
gaatacaagg ataggtttac agatattctg ggtagacatc agtcctttgt actggttgg	480
gagactgggt ctggtaaaac aacacaaatt ccacaccggt gtgtggagta catgcatca	540
ttaccaggac ccaagagagg agttgcctgt acccaaccca ggagagtggc tgcaatgagt	600
gtggctcaga gagttgctga tgagatggat gtgatgttgg gccaggaagt tggttactcc	660
attcgatttg aagactgcag tagtgcaaaa acatttttta tgtatatgac tgatgggatg	720
ttacttcgtg aagctatgaa tgatccccctc ctggagcggt atggtgtaat aattcttgat	780
gaggctcatg agaggacact ggctacagat attctaattgg gtgttctgaa ggaagttgta	840
agacagagat cagatttaaa ggttatagtt atgagcgcta ctctagatgc agg	893

<210> 187

<211> 488

<212> DNA

<213> Shigella Flexneri

<400> 187	
catcacatcc cggttggaat ctgtgcacat catactgaga gatggcctgg aagatcccct	60
ggaggatacg gggctgggtcc agcagcagtt ggaccagctg tccaccattg ggcgttgtga	120
atatgagaag acgtgtgcac tcctcgtgca gttgtttgac cagtcggccc agtcgtacca	180
ggagctgcta cagagcgcca gcgcaagccc aatggacatt gcagtgcagg agggaaaggct	240
gacatggctg gtttacatta ttggagcagt gatcgggtggc cgggtttctt ttgccagcac	300
tgatgagcaa gacgccatgg atggtgagct tgtctgtcgg gtgctccagc tgatgaacct	360
aacagattct cgtttgccc aggcgggtaa tgagaagcta gagttggcca tgctgagctt	420
ttttgaacag tttcgtaaga tctacattgg ggaccaagtg cagaaatcct ctaagctgta	480
ccgccgac	488

<210> 188

<211> 1009

<212> DNA

<213> Shigella Flexneri

<400> 188

gatgaccacg ctatacaccg ccaagaagta cgcggtgccg gcgctcgagg cccattgcgt	60
ggagttcctg aagaagaacc tgcgagccga caacgccttc atgctgctca cgcaggcgcg	120
actcttcgat gaaccgcagc tggccagcct gtgcctggag aacatcgaca aaaacactgc	180
agacgccatc accgcggagg gcttcaccga cattgacctg gacacgctgg tggctgtcct	240
ggagcgcgac aactgggca tccgtgaggt gcggtgttc aatgccgttg tccgctggtc	300
cgaggccgag tgtcagcggc agcagctgca ggtgacgccg gagaacaggc ggaaggttct	360
gggcaaggcc ctgggcctca ttcgcttccc gctcatgacc atcgaggagt tcgctgcagg	420
tcccgcacag tcgggcatcc tgggtggaccg cgagggtggc agcctcttcc tgcacttcac	480
cgtcaacccc aagccacgag tggagttcat tgaccggccc cgctgctgcc tgcgtgggaa	540
ggagtgcagc atcaaccgct tccagcaggt ggagagtcgc tggggctaca gcgggaccag	600
tgaccgcac aggttctcag tcaacaagcg catcttcgtg gtgggatttg ggctgtatgg	660
atccatccac gggcccaccg actaccaagt gaacatccag attattcaca ccgatagcaa	720
caccgtcttg ggccagaacg acacgggctt cagctgcgac ggctcagcca gcaccttcg	780
cgtcatgttc aaggagccgg tggaggtgct gcccaacgtc aactacacgg cctgtgccac	840
gctcaagggc ccagactccc actacggcac caaaggcctg cgcaagggtga cacacgagtc	900
gcccaccacg ggcgccaaga cctgcttcac cttttgctac gcggccggga acaacaatgg	960
cacatccgtg gaggacggcc agatccccga ggtcatcttc tacacctag	1009

<210> 189

<211> 1090

<212> DNA

<213> Shigella Flexneri

<400> 189

ctgtgggaaa gccttcagtt ggaaatcaca ccttattgag catcaaagaa ctcacactgg	60
tgagaaacct tatcactgta ccaaatgtaa gaagagcttt agtcgaaatt cattgcttgt	120
tgagcatcaa agaattcaca ctggggaaag accccataaa tgtgggtgaat gtgggaaagc	180
ctttcgatta agcacatacc ttatacaaca ccaaaaaatt cacactggcg agaagccttt	240

tctttgtatt	gagtgtggaa	aaagtttcag	tcggagctca	ttccttattg	aacatcagag	300
gatccatact	ggtgaaagac	cttatcagtg	caaagagtg	gggaaaagtt	tcagtcagct	360
ttgcaacctt	actcgtcatc	agagaattca	cacaggagac	aagccccata	aatgtgagga	420
atgtggaaaa	gcctttagta	gaagctcagg	tcttattcag	catcagagaa	ttcacaccag	480
ggagaagact	tatccataca	atgaaactaa	ggaaagtttt	gatccaaatt	gcagtcttgt	540
tatacagcag	gaagtctacc	ctaaggagaa	atcttataaa	tgtgatgaat	gtgggaaaac	600
ttttagtgtt	agtgtcatc	ttgtacaaca	tcaaagaatc	cacactgggtg	aaaagcccta	660
tctatgtact	gtctgtggga	agagcttcag	cgggagctca	tttcttattg	aacatcagag	720
aatccacact	ggagagagac	cctatctgtg	cagacagtg	ggaaaaagct	ttagtcagct	780
ttgtaatctt	attcgacatc	aggggtgttc	cacaggtaat	aaaccccata	aatgtgatga	840
atgtggaaag	gcctttagcc	ggaactcggg	tcttattcag	catcagagaa	tacacacagg	900
agagaaacct	tataagtgtg	agaagtgcga	caaaagtttc	agtcaacagc	gcagtcttgt	960
caaccatcag	atgatccatg	cagaggtgaa	aacccaagaa	acccatgaat	gtgatgcttg	1020
tggtgaagcc	tttaattgcc	gtatttctct	tattcagcat	cagaaattgc	acacagcatg	1080
gatgcaataa						1090

<210> 190

<211> 585

<212> DNA

<213> Shigella Flexneri

<400> 190

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ggtgatgcat	gccagatcgg	gaggcaattt	ggaagtgatg	ggtctgatgc	taggaaaggt	120
ggatggtgaa	accatgatca	ttatggacag	ttttgctttg	cctgtggagg	gactgaaac	180
cogagtaaat	gctcaggctg	ctgcatatga	atacatggct	gcatacatag	aaaatgcaaa	240
acaggttggc	cgccttgaaa	atgcaatcgg	gtggatcat	agccaccctg	gctatggctg	300
ctggctttct	gggattgatg	ttagtactca	gatgctcaat	cagcagttcc	aggaaccatt	360
tgtagcagtg	gtgattgatc	caacaagaac	aatatccgca	gggaaagtga	atcttggcgc	420
ctttaggaca	tacccaaagg	gctacaaacc	tctgatgaa	ggaccttctg	agtaccagac	480

tattccactt aataaaatag aagatTTTgg tgtacactgc aaacaatatt atgccttaga 540
 agtctcatat ttcaaactct ctttgatcg caaattgctt gagct 585

<210> 191

<211> 433

<212> DNA

<213> Shigella Flexneri

<400> 191
 acggattaat aaggaactta gtgatttggc ccgtgaccct ccagcacaat gttctgcagg 60
 tccagtggg gatgatatgt ttcattggca agccacaatt atgggaccta atgacagccc 120
 atatcaaggc ggtgtattct ttttgacaat tcattttcct acagactacc ctttcaaacc 180
 acctaagggt gcatttaca caagaattta tcatccaaat attaacagta atggcagcat 240
 ttgtctcgat attctaagat cacagtgggc gcctgcttta acaatttcta aagttctttt 300
 atccatttgt tcaactgctat gtgatccaaa cccagatgac cccctagtgc cagagattgc 360
 acggatctat aaaacagaca gagataagta caacagaata tctcggaat ggactcagaa 420
 gtatgccatg tga 433

<210> 192

<211> 928

<212> DNA

<213> Shigella Flexneri

<400> 192
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 agcagaacct acagcagcgg cagttctctc ccctgcagca cccataccca ctcagatgcc 120
 accggtgccc tcgccctcac agcctccttc tggcaaacct gtgtctgcag taaaaccac 180
 tgttgcccca ccactagctg agccaggagc tggcaaaggt ctgcgttcag aacatcgagg 240
 gaaaatgaac aggatgcggc agcgcattgc tcagcgtctg aaggaggccc agaatacatg 300
 tgcaatgctg acaactttta atgagattga catgagtaac atccaggaga tgagggtctg 360

gcacaaagag gcttttttga agaaacataa cctcaaacta ggcttcatgt cggcatttgt 420
gaaggcctca gcctttgcct tgcaggaaca gcctgttgta aatgcagtga ttgacgacac 480
aaccaaagag gtggtgtata gggattatat tgacatcagt gttgcagtgg ccacccacg 540
gggtctggtg gttccagtca tcaggaatgt ggaagctatg aattttgcag atattgaacg 600
gaccatcact gaactgggag agaaggcccg aaagaatgaa cttgccattg aagatatgga 660
tggcggtacc ttcaccatta gcaatggagg cgtttttggc tcgctctttg gaacacccat 720
tatcaacccc cctcagtcctg ccacccctggg gatgcatggc atctttgaca ggccagtggc 780
tataggaggc aaggtagagg tgcggcccat gatgtacgtg gcaactgacct atgatcaccg 840
gctgattgat ggcagagagg ctgtgacttt cctccgcaaa atcaaggcag cggtagagga 900
tcccagagtc ctctcctgg atcttttag 928

<210> 193

<211> 463

<212> DNA

<213> Shigella Flexneri

<400> 193
ggcggccagc aggaggctga tgaaggagct tgaagaaatc cgcaaattgtg ggatgaaaaa 60
cttccgtaac atccaggttg atgaagctaa tttattgact tggcaagggc ttattgttcc 120
tgacaacctt ccataatgata agggagcctt cagaatcgaa atcaactttc cagcagagta 180
cccattcaaa ccaccgaaga tcacatttaa aacaaagatc tatcacccaa acatcgacga 240
aaaggggcag gtctgtctgc cagtaattag tgccgaaaac tggaagccag caacccaaaac 300
cgaccaagta atccagtcct tcatagcact ggtgaatgac cccagcctg agcaccgct 360
tcgggctgac ctagctgaag aataactctaa ggaccgtaaa aaattctgta agaattgctga 420
agagtttaca aagaaatatg gggaaaagcg acctgtggac taa 463

<210> 194

<211> 462

<212> DNA

<213> Shigella Flexneri

<400> 194
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 tacctgcgga acctgtccag cgatgatgcc aatgtcctgg tgtggcacgc tctcctccta 120
 cccgaccaac ctccctacca cctgaaagcc ttcaacctgc gcatcagctt cccgccggag 180
 tatccgttca agcctcccat gatcaaattc acaaccaaga tctaccacc caacgtggac 240
 gagaacggac agatttgcct gcccatcatc agcagtgaga actggaagcc ttgcaccaag 300
 acttgccaag tcctggaggc cctcaatgtg ctggtgaata gaccgaatat cagggagccc 360
 ctgcggatgg acctcgctga cctgctgaca cagaatccgg agctgttcag aaagaatgcc 420
 gaagagttca cctccgatt cggagtggac cggccctcct aa 462

<210> 195

<211> 307

<212> DNA

<213> Shigella Flexneri

<400> 195
 atgtcagttg ggcacaaggc ccaggagagc aagattcgat acaaaaaccaa tgaacctgtg 60
 tgggaggaaa acttcacttt cttcattcac aatcccaagc gccaggacct tgaagttgag 120
 gtcagagacg agcagcacca gtgttccttg gggaacctga aggtccccct cagccagctg 180
 ctcaccagtg aggacatgac tgtgagccag cgcttcacg tcagtaactc ggggccaaac 240
 agcaccatca agatgaagat tgccctgcgg gtgctccatc tcgaaaagcg agaaaggcct 300
 ccagacc 307

<210> 196

<211> 460

<212> DNA

<213> Shigella Flexneri

<400> 196
 ctgggatgcc ctcaaggctg ccgcctatgc tgctgaagcc aacgaccacg agctggccca 60

ggccatcctg gatggagcca gcatcacctt gcctcatggc accctctgtg aatgctacga 120
 tgagctgggc aatcgctacc agctgccccat ctactgctg tcaccgccgg tgaacctgct 180
 gctggagcac acggaggagg agagcctgga gccccccgag cctccacca gcgtgcgccg 240
 tgagttcccg ctgaagggtgc gcctgtccac gggcaaggac gtgaggctca gcgccagcct 300
 gcccgaacac gtggggcagc tcaagaggca gctgcacgcc caggagggca tcgagccatc 360
 gtggcagcgg tggttcttct ccgggaagct gctcacagac cgcacacggc tccaggagac 420
 caagatccag aaagattttg tcattccagg catcatcaac 460

<210> 197

<211> 212

<212> DNA

<213> Shigella Flexneri

<400> 197
 cgtctgtgcc gtctgccgca agaagttcgt cagctccatc aggtgcgca cccacatcaa 60
 agaggtgcac ggggctgccc aggaggcctt ggtcttcacc agttccatca accagagctt 120
 ctgcctcctg gaacctggtg gggacatcca gcaagaagct ctgggggacc agctacagct 180
 ggtggaagag gagtttgccc tccagggcgt ga 212

<210> 198

<211> 433

<212> DNA

<213> Shigella Flexneri

<400> 198
 gagaatccac aaggaattga atgatctggc acgggaccct ccagcacagt gttcagcagg 60
 tctgtttgga gatgatatgt tccattggca agctacaata atggggccaa atgacagtcc 120
 ctatcagggt ggagtatttt tcttgacaat tcatttccca acagattacc cttcaaacc 180
 acctaagggt gcatctacaa caagaattta tcattccaaat attaacagta atggcagcat 240
 ttgtcttgat attctacgat cacagtggc tccagcacta actatttcaa aagtactctt 300
 gtccatctgt tctctgttgt gtgatcccaa tccagatgat cctttagtgc ctgagattgc 360

tcggatctac aaaacagata gagaaaagta caacagaata gctcgggaat ggactcagaa 420
gtatgcatg taa 433

<210> 199

<211> 595

<212> DNA

<213> Shigella Flexneri

<400> 199
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cattcatatg gttaccatgg ggatgatgga cattcgtttt gttcttctgg aactggacaa 120
ccttatggac caactttcac tactggtgat gtcattggct gttgtgttaa tcttatcaac 180
aatacctgct ttacaccaa gaatggacat agtttaggta ttgctttcac tgacctaccg 240
ccaaatttgt atcctactgt ggggcttcaa acaccaggag aagtggtcga tgccaatttt 300
gggcaacatc ctttcgtgtt tgatatagaa gactatatgc gggagtggag aaccaaatac 360
caggcacaga tagatcgatt tcctatcgga gatcgagaag gagaatggca gaccatgata 420
caaaaaatgg ttcatctta tttagtccac catgggtact gtgccacagc agaggccttt 480
gccagatcta cagaccagac cgttctagaa gaattagctt ccattaagaa tagacaaaga 540
attcagaaat tgggtattagc aggaagaatg ggagaagcca ttgaaacaac acaac 595

<210> 200

<211> 532

<212> DNA

<213> Shigella Flexneri

<400> 200
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ctctagcaaa accactgcta agttatccac tagtgctaaa agaattcaga aggagctagc 120
tgaaataacc cttgatcctc ctctaattg cagtgtggg cctaaaggag ataacattta 180
tgaatggaga tcaactatac ttggtccacc gggttctgta tatgaagggtg gtgtgttttt 240

tctggatatac acattttcat cagattatcc atttaagcca ccaaagggtta ctttccgcac 300
 cagaatctat cactgcaaca tcaacagtca gggagtcac tgtctggaca tccttaaaga 360
 caactggagt cccgctttga ctatttcaaa ggttttgctg tctatttggt cccttttgac 420
 agactgcaac cctgcggtac ctctgggttg aagcatagcc actcagtatt tgaccaacag 480
 agcagaacac gacaggatag ccagacagtg gaccaagaga tacgcaacat aa 532

<210> 201

<211> 733

<212> DNA

<213> Shigella Flexneri

<400> 201
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 tctcagattg caaacagtgg ttctgctgga ttgataaacc cagctgctac agtcaatgat 120
 gaatctggtc gagattctga agtcagtgcc agggagcaca tgagttccag cagctccctc 180
 cagtcccggg aggagaagca agagcctgtt gtggttaaggc cctatccaca ggtgcagatg 240
 ttgtcgacac accatgctgt cgcacagcc acacctgttg cagtgcagc cccgccagca 300
 cacctgacgc cagcagtgcc actttcattt tcggagggac ttatgaagcc gccccgaag 360
 cccaccatgc ctagccgtcc cattgctcct gctccacctt ctaccctgtc acttcccccc 420
 aagggtccag ggcagggttac cgttaccatg gagagtagca tccctcaagc ttcagccatt 480
 cctgtggcaa caatcagtgg acaacagggc catcccagta acctgcatca catcatgact 540
 acaaatgtgc aaatgttat catccgcagc aatgctcctg ggccccctct tcacattgga 600
 gcttctcatt tacctcgagg tgcagctgct gctgctgtga tgtccagttc taaagtaacc 660
 acagtcctga ggccgacctc acagctgcca aatgctgcta ctgctcagcc agcagtacag 720
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<210> 202

<211> 288

<212> DNA

<213> Shigella Flexneri

<220>

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<222> (204)..(204)

<223> misc_feature

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<222> (235)..(235)

<223> misc_feature

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<222> (268)..(269)

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<221> misc_feature

<222> (277)..(277)

<223> misc_feature

<220>

<221> misc_feature

<222> (283)..(283)

<223> misc_feature

<400> 202
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tatagatgaa caagatcttt gctagcaagg agctgagagc ttagtgaaga aagagtgaaa 180
agtccacagt gagaacatgg agnggcacat acctgggctg caggcacact gcctntgcct 240
gatccagtcc tgacactgaa aaatgtgnnc atgatangaa gangggggg 288

<210> 203

<211> 300

<212> DNA

<213> Shigella Flexneri

<220>

<221> misc_feature

<222> (1)..(1)

<223> misc_feature

<220>

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<222> (5)..(5)

<223> misc_feature

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<222> (12)..(12)

<223> misc_feature

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<221> misc_feature

<222> (14)..(14)

<223> misc_feature

<220>

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<222> (16)..(16)

<223> misc_feature

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<222> (242)..(242)

<223> misc_feature

<220>

<221> misc_feature

<222> (262)..(262)

<223> misc_feature

<220>

<221> misc_feature

<222> (269)..(269)

<223> misc_feature

<220>

<221> misc_feature

<222> (275)..(275)

<223> misc_feature

<220>

<221> misc_feature

<222> (288)..(288)

<223> misc_feature

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<222> (291)..(291)

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<222> (293)..(293)

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<221> misc_feature

<222> (295)..(295)

<223> misc_feature

<400> 203
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 acaagtaaga ggtctgggtg caagcggaca agagatgagt ccgtcaacc ccacaactga 120
 gacttgagag ggtgagtggt gtcttgagaa ctccaggcaa gctgagtagg tggccccact 180
 atcaattaaa aaagagatca gcttacctgc tactantana gttaccctgg gctccgatgc 240
 antgatggca gtggggggccg gnagccggng cccangggcc ctggcctnat nantnttgag 300

<210> 204

<211> 282

<212> DNA

<213> Shigella Flexneri

<400> 204
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 gaacatcgag attacttttc ttcacatggt caattgagta ctgatctttg tcttccatct 120
 cttaagtaca ttactttctg aactatgtat gctatataat tcatatctgt gatagtagtg 180
 ggtgacttga tagatattat ctggctatgt gtacttccat gttagcaagt gatttatgtg 240
 tcaaagtttc taccagtggt gaattaggtc agtttaattt tg 282

<210> 205

<211> 301

<212> DNA

<213> Shigella Flexneri

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gcttttgnnn nnttncatc aangcgtgct tttcttttcc aactacanan gcacatggaa	180
gtggtcacta tccgctctct ccagtattat anccatcaga atnncttctt gcaggannna	240
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cagccaccaa aagtttccga ggggaaggat gttcttctac ttgtccacaa tttgccccag 180
 aatcttactg gctacatctg gtacaaaggg caaatcaggg acctctacca ttacattaca 240
 tcatatgtag tagacggtca aataattata tatgggcctg catatagtgg acgagaaaca 300
 gcatattcca atgcatccct gctgatccag aatgtcaccg gggaggacgc aggatcctac 360
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 tggatgaatg gtcagagcct ccctatgact cataggtttc agctgtccga aaccaacagg 600
 accctctttc tatttgggtg cacaaagtat actgcaggac cctatgaatg tgaaatacgg 660
 aactcagga gtcagccg cagtgaacca gtcacctga atctcctcca tgggccagac 720
 ctccccagaa ttcacccttc atacaccaat taccgttcag gagataacct ctactgtct 780
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 caatcaggac aaaatctgtt tatccccaa attactacaa agcatagcgg gctctatgtt 900
 tgctctgttc gtaactcagc cactgggcag gaaagctcca catcgttgac agtcaaagtc 960
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 tgctgtgcgg ctgggactgc tgaggttgac gtggttctg ttgcagaagc caggtggccg 240
 cagagctctc agtatccaca accaggaagg ggcgacgct gtgagcttgg ccttgagcgc 300
 aggetatcac aagctgcacc agcttctaac cgaggagaat gctggagaac cagactcctg 360
 gagcagttta tcctatgaaa taccgtatgg agactgttct gtgaggcatc atcgagagtt 420
 ggacatctat acattaacct ctgagtctga ttcacatcat gaacacccat ttctggaga 480

cggttgcaact ggaccaatTT ttAAacttat gaacatccaa cagcaactaa tgaaaacaaa 540
 cctcaagcag atggacagtc ttatgccctt aatgatgaca gcacaggatc cttccagtgc 600
 cccagagaca gatggccagt ttcttccctg tgcaccggag cccacggacc ctcagcgact 660
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 tgaactcact cctcaccaga catttgctcg actccataac cagaagactg gccaggaagt 180
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 ctcttgaggag gagagagccg tttccagaaa cccctgtgc accctgtgcc tggaggagcg 240

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<211> 472

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 tgaatggagg tcaactatat tgggaccccc aggatctgtc tatgaaggag ggggtgttctt 180
 tcttgacatt accttttcac cagactatcc gtttaaacc cctaagggtta ccttccgaac 240
 aagaatctat cactgtaata ttaacagcca aggtgtgatc tgtctggaca tcttaaagga 300
 caactggagt ccggctttaa ctatttctaa agttctctc tccatctgct cacttcttac 360
 agattgcaac cctgctgacc ctctggtggg cagcatcgcc acacagtaca tgaccaacag 420
 agcagagcat gaccgatgg ccagacagtg gaccaagcgg tacgccacat ag 472

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 tttcagatgt gtgagctctg taacctttta aggtcctgga aacatagtat ttttaaaagt 120
 aactgtata tctctatcag gaaattaaaa ttgttagctt atatctacat ttcaataaaa 180
 tgtaagcctg ttgctatggt gatagcaaatt ctgtttaact tactgggtcat taggctgtta 240
 cgtacgtcaa tgaactggtg aaaggagaaa atttatgaaa catanctcaa c 291

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<400> 213
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 ctgctaacta cacagattgg gagaaaatcc cttccatgtc gaagaaccga gtccccgact 180
 cctgctgcat taatgttact gtgggctgtg ggattaattt caacgagaag gcgatccata 240
 aggagggctg tgtggagaag attgggggct ggctgaggaa aaatgtgctg gtggtagctg 300
 cagcagccct tggaattgct ttgtcagagg ttttgggaat tgtctttgcc tgctgcctcg 360
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aaaggnnnca cagtttctgn actctaggag anattcttgn cctgttagng tnaaagtact	180
tttcactnga taagctatgn tgacgttnt tatnagaacn gnnnttantg ntgantgcat	240
gatntccatt catnatgtat ttgccatgag nngctaattn ncaanacgtg tcgtaatgag	300
aataa	305

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 ccgctgctaa attgtcaact agtgctaaaa gaattcagaa ggaacttgca gaaatcacat 180
 tggaccctcc tcccaactgt agtgctggac ccaaaggaga caacatttat gaatggaggt 240
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 actgtaatat taacagccaa ggtgtga 387

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Phe Ser His Asp Ser Ser Phe Leu Cys Ala Ser Ser Asp Lys Gly Thr
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Val His Ile Phe Ala Leu Lys Asp Thr Arg Leu Asn Arg Arg Ser Ala
 20 25 30

Leu Ala Arg Val Gly Lys Val Gly Pro Met Ile Gly Gln Tyr Val Asp
 35 40 45

Ser Gln Trp Ser Leu Ala Ser Phe Thr Val Pro Ala Glu Ser Ala Cys
 50 55 60

Ile Cys Ala Phe Gly Arg Asn Thr Ser Lys Asn Val Asn Ser Val Ile
 65 70 75 80

Ala Ile Cys Val Asp Gly Thr Phe His Lys Tyr Val Phe Thr Pro Asp
 85 90 95

Gly Asn Cys Asn Arg Glu Ala Phe Asp Val Tyr Leu Asp Ile Cys Asp
 100 105 110

Asp Asp Asp Phe
 115

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20 25 30

Thr Gln Cys Ser Cys Ser Glu Gly Asn Val Tyr Cys Gly Leu Lys Thr
35 40 45

Cys Pro Lys Leu Thr Cys Ala Phe Pro Val Ser Val Pro Asp Ser Cys
50 55 60

Cys Arg Val Cys Arg Gly Asp Gly Glu Leu Ser Trp Glu His Ser Asp
65 70 75 80

Gly Asp Ile Phe Arg Gln Pro Ala Asn Arg Glu Ala Arg His Ser Tyr
85 90 95

His Arg Ser His Tyr Asp Pro Pro Pro Ser Arg Gln Ala Gly Gly Leu
100 105 110

Ser Arg Phe Pro Gly Ala Arg Ser His Arg Gly Ala Leu Met Asp Ser
115 120 125

Gln Gln Ala Ser Gly Thr Ile Val Gln Ile Val Ile Asn Asn Lys His
130 135 140

Lys His Gly Gln Val Cys Val Ser Asn Gly Lys Thr Tyr Ser His Gly
145 150 155 160

Glu Ser Trp His Pro Asn Leu Arg Ala Phe Gly Ile Val Glu Cys Val
165 170 175

Leu Cys Thr Cys Asn Val Thr Lys Gln Glu Cys Lys Lys Ile His Cys
 180 185 190

Pro Asn Arg Tyr Pro Cys Lys Tyr Pro Gln Lys Ile Asp Gly Lys Cys
 195 200 205

Cys Lys Val Cys Pro Gly Lys Lys Ala Lys Glu Leu Pro Gly Gln Ser
 210 215 220

Phe Asp Asn Lys Gly Tyr Phe Cys Gly Glu Glu Thr Met Pro Val Tyr
 225 230 235 240

Glu Ser Val Phe Met Glu Asp Gly Glu Thr Thr Arg Lys Ile Ala Leu
 245 250 255

Glu Thr Glu Arg Pro Pro Gln Val Glu Val His Val Trp Thr Ile Arg
 260 265 270

Lys Gly Ile Leu Gln His Phe His Ile Glu Lys Ile Ser Lys Arg Met
 275 280 285

Phe Glu Glu Leu Pro His Phe Lys Leu Val Thr Arg Thr Thr Leu Ser
 290 295 300

Gln Trp Lys Ile Phe Thr Glu Gly Glu Ala Gln Ile Ser Gln Met Cys
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Ser Ser Arg Val Cys Arg Thr Glu Leu Glu Asp Leu Val Lys Val Leu
 325 330 335

Tyr Leu Glu Arg Ser Glu Lys Gly His Cys
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Cys	Xaa	Val	Xaa	Val	Leu	Cys	Ala	Cys	His	Asp	Asp	Xaa	Trp	Glu	Leu
		20						25					30		

Xaa	Pro	Ser	Arg	Xaa	Xaa	Xaa	Val	Val	Gly	Xaa	Xaa	Pro	Pro	Xaa	Xaa
		35					40					45			

Val	Xaa	Arg	Arg	Leu	Xaa	Phe	Ala	Lys	Asp	Leu	Xaa	Xaa	Ala	Ala	Ser
	50					55					60				

Xaa	Gly	Glu	Xaa	Xaa	Leu	Gly	Gly	Xaa	Leu	Xaa	Leu	Lys	Xaa	Trp	Asp
65					70				75						80

Ser

<210> 219

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<212> PRT

<213> Shigella Flexneri

<400> 219

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Thr	Asp	Pro	Leu	Leu	Leu	Ile	Leu	Ser	Phe	Leu	Asp	Tyr	Arg	Asp	Leu
			20					25					30		

Ile	Asn	Cys	Cys	Tyr	Val	Ser	Arg	Arg	Leu	Ser	Gln	Leu	Ser	Ser	His
	35						40					45			

Asp	Pro	Leu	Trp	Arg	Arg	His	Cys	Lys	Lys	Tyr	Trp	Leu	Ile	Ser	Glu
	50					55					60				

Glu	Glu	Lys	Thr	Gln	Lys	Asn	Gln	Cys	Trp	Lys	Ser	Leu	Phe	Ile	Asp
65				70						75					80

Thr	Tyr	Ser	Asp	Val	Gly	Arg	Tyr	Ile	Asp	His	Tyr	Ala	Ala	Ile	Lys
				85					90					95	

Lys	Ala	Trp	Asp	Asp	Leu	Lys	Lys	Tyr	Leu	Glu	Pro	Arg	Cys	Pro	Arg
			100					105					110		

Met	Val	Leu	Ser	Leu	Lys	Glu	Gly	Ala	Arg	Glu	Glu	Asp	Leu	Asp	Ala
		115					120					125			

Val	Glu	Ala	Gln	Ile	Gly	Cys	Lys	Leu	Pro	Asp	Asp	Tyr	Arg	Cys	Ser
						135					140				

Tyr	Arg	Ile	His	Asn	Gly	Gln	Lys	Leu	Val	Val	Pro	Gly	Leu	Leu	Gly
145					150					155					160

Ser Met Ala Leu Ser Asn His Tyr Arg Ser Glu Asp Leu Leu Asp Val
 165 170 175

Asp Thr Ala Ala Gly Gly Phe Gln Gln Arg Gln Gly Leu Lys Tyr Cys
 180 185 190

Leu Pro Leu Thr Phe Cys Ile His Thr Gly Leu Ser Gln Tyr Ile Ala
 195 200 205

Val Glu Ala Ala Glu Gly Arg Asn Lys Asn Glu Val Phe Tyr Gln Cys
 210 215 220

Pro Asp Gln Met Ala Arg Asn Pro Ala Ala Ile Asp Met Phe Ile Ile
 225 230 235 240

Gly Ala Thr Phe Thr Asp Trp Phe Thr Ser Tyr Val Lys Asn Val Val
 245 250 255

Ser Gly Gly Phe Pro Ile Ile Arg Asp Gln Ile Phe Arg Tyr Val His
 260 265 270

Asp Pro Glu Cys Val Ala Thr Thr Gly Asp Ile Thr Val Ser Val Ser
 275 280 285

Thr Ser Phe Leu Pro Glu Leu Ser Ser Val His Pro Pro His Tyr Phe
 290 295 300

Phe Thr Tyr Arg Ile Arg Ile Glu Met Ser Lys Asp Ala Leu Pro Glu
 305 310 315 320

Lys Ala Cys Gln Leu Asp Ser Arg Tyr Trp Arg Ile Thr Asn Ala Lys
 325 330 335

Gly Asp Val Glu Glu Val Gln Gly Pro Gly Val Val Gly Glu Phe Pro
 340 345 350

Ile Ile Ser Pro Gly Arg Val Tyr Glu Tyr Thr Ser Cys Thr Thr Phe
 355 360 365

Ser Thr Thr Ser Gly Tyr Met Glu Gly Tyr Tyr Thr Phe His Phe Leu
 370 375 380

Tyr Phe Lys Asp Lys Ile Phe Asn Val Ala Ile Pro Arg Phe His Met
 385 390 395 400

Ala Cys Pro Thr Phe Arg Val Ser Ile Ala Arg Leu Val Ser
 405 410

<210> 220

<211> 261

<212> PRT

<213> Shigella Flexneri

<400> 220

Gln Gln Gln Gln Gln Pro Pro Pro Pro Pro Ile Pro Ala Asn Gly Gln
 1 5 10 15

Gln Ala Ser Ser Gln Asn Glu Gly Leu Thr Ile Asp Leu Lys Asn Phe
 20 25 30

Arg Lys Pro Gly Glu Lys Thr Phe Thr Gln Arg Ser Arg Leu Phe Val
 35 40 45

Gly Asn Leu Pro Pro Asp Ile Thr Glu Glu Glu Met Arg Lys Leu Phe
 50 55 60

Glu Lys Tyr Gly Lys Ala Gly Glu Val Phe Ile His Lys Asp Lys Gly
 65 70 75 80

Phe Gly Phe Ile Arg Leu Glu Thr Arg Thr Leu Ala Glu Ile Ala Lys
 85 90 95

Val Glu Leu Asp Asn Met Pro Leu Arg Gly Lys Gln Leu Arg Val Arg
 100 105 110

Phe Ala Cys His Ser Ala Ser Leu Thr Val Arg Asn Leu Pro Gln Tyr
 115 120 125

Val Ser Asn Glu Leu Leu Glu Glu Ala Phe Ser Val Phe Gly Gln Val
 130 135 140

Glu Arg Ala Val Val Ile Val Asp Asp Arg Gly Arg Pro Ser Gly Lys

145 150 155 160
 Gly Ile Val Glu Phe Ser Gly Lys Pro Ala Ala Arg Lys Ala Leu Asp
 165 170 175
 Arg Cys Ser Glu Gly Ser Phe Leu Leu Thr Thr Phe Pro Arg Pro Val
 180 185 190
 Thr Val Glu Pro Met Asp Gln Leu Asp Asp Glu Glu Gly Leu Pro Glu
 195 200 205
 Lys Leu Val Ile Lys Asn Gln Gln Phe His Lys Glu Arg Glu Gln Pro
 210 215 220
 Pro Arg Phe Ala Gln Pro Gly Ser Phe Glu Tyr Glu Tyr Ala Met Arg
 225 230 235 240
 Trp Lys Ala Leu Ile Glu Met Glu Lys Gln Gln Gln Asp Gln Val Asp
 245 250 255
 Arg Asn Ile Lys Glu
 260

 <210> 221
 <211> 206
 <212> PRT
 <213> Shigella Flexneri

 <400> 221
 Gly Asp Phe Cys Ile Arg Val Phe Ser Glu Lys Lys Ala Asp Tyr Gln
 1 5 10 15
 Ala Val Asp Asp Glu Ile Glu Ala Asn Leu Glu Glu Phe Asp Ile Ser
 20 25 30
 Glu Asp Asp Ile Asp Asp Gly Val Arg Arg Leu Phe Ala Gln Leu Ala
 35 40 45
 Gly Glu Asp Ala Glu Ile Ser Ala Phe Glu Leu Gln Thr Ile Leu Arg
 50 55 60

Arg Val Leu Ala Lys Arg Gln Asp Ile Lys Ser Asp Gly Phe Ser Ile
65 70 75 80

Glu Thr Cys Lys Ile Met Val Asp Met Leu Asp Ser Asp Gly Ser Gly
85 90 95

Lys Leu Gly Leu Lys Glu Phe Tyr Ile Leu Trp Thr Lys Ile Gln Lys
100 105 110

Tyr Gln Lys Ile Tyr Arg Glu Ile Asp Val Asp Arg Ser Gly Thr Met
115 120 125

Asn Ser Tyr Glu Met Arg Lys Ala Leu Glu Glu Ala Gly Phe Lys Met
130 135 140

Pro Cys Gln Leu His Gln Val Ile Val Ala Arg Phe Ala Asp Asp Gln
145 150 155 160

Leu Ile Ile Asp Phe Asp Asn Phe Val Arg Cys Leu Val Arg Leu Glu
165 170 175

Thr Leu Phe Lys Ile Phe Lys Gln Leu Asp Pro Glu Asn Thr Gly Thr
180 185 190

Ile Glu Leu Asp Leu Ile Ser Trp Leu Cys Phe Ser Val Leu
195 200 205

<210> 222

<211> 157

<212> PRT

<213> Shigella Flexneri

<400> 222

Met Val Asn Pro Gly Ser Ser Ser Gln Pro Pro Pro Val Thr Ala Gly
1 5 10 15

Ser Leu Ser Trp Lys Arg Cys Ala Gly Cys Gly Gly Lys Ile Ala Asp
20 25 30

Arg Phe Leu Leu Tyr Ala Met Asp Ser Tyr Trp His Ser Arg Cys Leu
 35 40 45

Lys Cys Ser Cys Cys Gln Ala Gln Leu Gly Asp Ile Gly Thr Ser Cys
 50 55 60

Tyr Thr Lys Ser Gly Met Ile Leu Cys Arg Asn Asp Tyr Ile Arg Leu
 65 70 75 80

Phe Gly Asn Ser Gly Ala Cys Ser Ala Cys Gly Gln Ser Ile Pro Ala
 85 90 95

Ser Glu Leu Val Met Arg Ala Gln Gly Asn Val Tyr His Leu Lys Cys
 100 105 110

Phe Thr Cys Ser Thr Cys Arg Asn Arg Leu Val Pro Gly Asp Arg Phe
 115 120 125

His Tyr Ile Asn Gly Ser Leu Phe Cys Glu His Asp Arg Pro Thr Ala
 130 135 140

Leu Ile Asn Gly His Leu Asn Ser Leu Gln Ser Asn Pro
 145 150 155

<210> 223

<211> 121

<212> PRT

<213> Shigella Flexneri

<400> 223

Leu Ser Leu Pro Gly Ile Leu His Phe Ile Gln His Glu Trp Ala Arg
 1 5 10 15

Phe Glu Ala Glu Lys Ala Arg Trp Glu Ala Glu Arg Ala Glu Leu Gln
 20 25 30

Ala Gln Val Ala Phe Leu Gln Gly Glu Arg Lys Gly Gln Glu Asn Leu
 35 40 45

Lys Thr Asp Leu Val Arg Arg Ile Lys Met Leu Glu Tyr Ala Leu Lys
50 55 60

Gln Glu Arg Ala Lys Tyr His Lys Leu Lys Phe Gly Thr Asp Leu Asn
65 70 75 80

Gln Gly Glu Lys Lys Ala Asp Val Ser Glu Gln Val Ser Asn Gly Pro
85 90 95

Val Glu Ser Val Thr Leu Glu Asn Ser Pro Leu Val Trp Lys Glu Gly
100 105 110

Arg Gln Leu Leu Arg Gln Tyr Leu Glu
115 120

<210> 224

<211> 336

<212> PRT

<213> Shigella Flexneri

<400> 224

Met Ala Ala Ser Leu Arg Leu Leu Gly Ala Ala Ser Gly Leu Arg Tyr
1 5 10 15

Trp Ser Arg Arg Leu Arg Pro Ala Ala Gly Ser Phe Ala Ala Val Cys
20 25 30

Ser Arg Ser Val Ala Ser Lys Thr Pro Val Gly Phe Ile Gly Leu Gly
35 40 45

Asn Met Gly Asn Pro Met Ala Lys Asn Leu Met Lys His Gly Tyr Pro
50 55 60

Leu Ile Ile Tyr Asp Val Phe Pro Asp Ala Cys Lys Glu Phe Gln Asp
65 70 75 80

Ala Gly Glu Gln Val Val Ser Ser Pro Ala Asp Val Ala Glu Lys Ala
85 90 95

Asp Arg Ile Ile Thr Met Leu Pro Thr Ser Ile Asn Ala Ile Glu Ala

100

105

110

Tyr Ser Gly Ala Asn Gly Ile Leu Lys Lys Val Lys Lys Gly Ser Leu
 115 120 125

Leu Ile Asp Ser Ser Thr Ile Asp Pro Ala Val Ser Lys Glu Leu Ala
 130 135 140

Lys Glu Val Glu Lys Met Gly Ala Val Phe Met Asp Ala Pro Val Ser
 145 150 155 160

Gly Gly Val Gly Ala Ala Arg Ser Gly Asn Leu Thr Phe Met Val Gly
 165 170 175

Gly Val Glu Asp Glu Phe Ala Ala Ala Gln Glu Leu Leu Gly Cys Met
 180 185 190

Gly Ser Asn Val Val Tyr Cys Gly Ala Val Gly Thr Gly Gln Ala Ala
 195 200 205

Lys Ile Cys Asn Asn Met Leu Leu Ala Ile Ser Met Ile Gly Thr Ala
 210 215 220

Glu Ala Met Asn Leu Gly Ile Arg Leu Gly Leu Asp Pro Lys Leu Leu
 225 230 235 240

Ala Lys Ile Leu Asn Met Ser Ser Gly Arg Cys Trp Ser Ser Asp Thr
 245 250 255

Tyr Asn Pro Val Pro Gly Val Met Asp Gly Val Pro Ser Ala Asn Asn
 260 265 270

Tyr Gln Gly Gly Phe Gly Thr Thr Leu Met Ala Lys Asp Leu Gly Leu
 275 280 285

Ala Gln Asp Ser Ala Thr Ser Thr Lys Ser Pro Ile Leu Leu Gly Ser
 290 295 300

Leu Ala His Gln Ile Tyr Arg Met Met Cys Ala Lys Gly Tyr Ser Lys
 305 310 315 320

Lys Asp Phe Ser Ser Val Phe Gln Phe Leu Arg Glu Glu Glu Thr Phe
 325 330 335

<210> 225

<211> 227

<212> PRT

<213> Shigella Flexneri

<400> 225

Ala Glu Glu Glu Glu Ala Glu Val Arg Gln Pro Lys Gly Pro Asp Pro
1 5 10 15

Asp Ser Leu Ser Ser Gln Phe Met Ala Tyr Ile Glu Gln Arg Arg Ile
20 25 30

Ser His Glu Gly Ser Pro Val Lys Pro Val Ala Ile Arg Glu Phe Gln
35 40 45

Lys Thr Glu Asp Met Arg Arg Tyr Leu His Gln Asn Arg Val Pro Ala
50 55 60

Glu Pro Ser Ser Leu Leu Ser Leu Ser Ala Ser His Asn Gln Leu Ser
65 70 75 80

His Thr Asp Leu Glu Leu His Gln Arg Arg Glu Gln Leu Val Glu Arg
85 90 95

Thr Arg Arg Glu Ala Gln Leu Ala Ala Leu Gln Tyr Glu Glu Glu Lys
100 105 110

Ile Arg Thr Lys Gln Ile Gln Arg Asp Ala Val Leu Asp Phe Val Lys
115 120 125

Gln Lys Ala Ser Gln Ser Pro Gln Lys Gln His Pro Leu Leu Asp Gly
130 135 140

Val Asp Gly Glu Cys Pro Phe Pro Ser Arg Arg Ser Gln His Thr Asp
145 150 155 160

Asp Ser Ala Leu Cys Met Ser Leu Ser Gly Leu Asn Gln Val Gly Cys
165 170 175

Ala Ala Thr Leu Pro His Ser Ser Ala Phe Thr Pro Leu Lys Ser Asp
 180 185 190

Asp Arg Pro Asn Ala Leu Leu Ser Ser Pro Ala Thr Glu Thr Val His
 195 200 205

His Ser Pro Ala Tyr Ser Phe Pro Ala Ala Ile Gln Arg Asn Gln Pro
 210 215 220

Gln Arg Pro
 225

<210> 226

<211> 234

<212> PRT

<213> Shigella Flexneri

<400> 226

Met Ile Leu Gln Glu Leu Pro Asp Leu Glu Glu Leu Phe Leu Cys Leu
 1 5 10 15

Asn Asp Tyr Glu Thr Val Ser Cys Pro Ser Ile Cys Cys His Ser Leu
 20 25 30

Lys Leu Leu His Ile Thr Asp Asn Asn Leu Gln Asp Trp Thr Glu Ile
 35 40 45

Arg Lys Leu Gly Val Met Phe Pro Ser Leu Asp Thr Leu Val Leu Ala
 50 55 60

Asn Asn His Leu Asn Ala Ile Glu Glu Pro Asp Asp Ser Leu Ala Arg
 65 70 75 80

Leu Phe Pro Asn Leu Arg Ser Ile Ser Leu His Lys Ser Gly Leu Gln
 85 90 95

Ser Trp Glu Asp Ile Asp Lys Leu Asn Ser Phe Pro Lys Leu Glu Glu
 100 105 110

Val Arg Leu Leu Gly Ile Pro Leu Leu Gln Pro Tyr Thr Thr Glu Glu
 115 120 125

Arg Arg Lys Leu Val Ile Ala Arg Leu Pro Ser Val Ser Lys Leu Asn
 130 135 140

Gly Ser Val Val Thr Asp Gly Glu Arg Glu Asp Ser Glu Arg Phe Phe
 145 150 155 160

Ile Arg Tyr Tyr Val Asp Val Pro Gln Glu Glu Val Pro Phe Arg Tyr
 165 170 175

His Glu Leu Ile Thr Lys Tyr Gly Lys Leu Glu Pro Leu Ala Glu Val
 180 185 190

Asp Leu Arg Pro Gln Ser Ser Ala Lys Val Glu Val His Phe Asn Asp
 195 200 205

Gln Val Glu Glu Met Ser Ile Arg Leu Asp Gln Thr Val Ala Glu Leu
 210 215 220

Lys Lys Gln Leu Lys Thr Leu Val Gln Leu
 225 230

<210> 227

<211> 142

<212> PRT

<213> Shigella Flexneri

<400> 227

Val Asp Glu Val Leu Gln Ile Pro Pro Ser Leu Leu Thr Cys Gly Gly
 1 5 10 15

Cys Gln Gln Asn Ile Gly Asp Arg Tyr Phe Leu Lys Ala Ile Asp Gln
 20 25 30

Tyr Trp His Glu Asp Cys Leu Ser Cys Asp Leu Cys Gly Cys Arg Leu
 35 40 45

Gly Glu Val Gly Arg Arg Leu Tyr Tyr Lys Leu Gly Arg Lys Leu Cys

50

55

60

Arg Arg Asp Tyr Leu Arg Leu Phe Gly Gln Asp Gly Leu Cys Ala Ser
65 70 75 80

Cys Asp Lys Arg Ile Arg Ala Tyr Glu Met Thr Met Arg Val Lys Asp
85 90 95

Lys Val Tyr His Leu Glu Cys Phe Lys Cys Ala Ala Cys Gln Lys His
100 105 110

Phe Cys Val Gly Asp Arg Tyr Leu Leu Ile Asn Ser Asp Ile Val Cys
115 120 125

Glu Gln Asp Ile Tyr Glu Trp Thr Lys Ile Asn Gly Met Ile
130 135 140

<210> 228

<211> 135

<212> PRT

<213> Shigella Flexneri

<400> 228

Leu Lys Thr Ala Gly Lys Ser Glu Pro Ser Ser Lys Leu Arg Lys Gln
1 5 10 15

Leu Lys Lys Gln Gln Asp Ser Leu Asp Val Val Asp Ser Ser Val Ser
20 25 30

Ser Leu Cys Leu Ser Asn Thr Ala Ser Ser His Gly Thr Arg Lys Leu
35 40 45

Phe Gln Ile Tyr Ser Lys Ser Pro Phe Tyr Arg Ala Ala Ser Gly Asn
50 55 60

Glu Ala Leu Gly Met Glu Gly Pro Leu Gly Gln Thr Lys Phe Leu Glu
65 70 75 80

Asp Lys Pro Gln Phe Ile Ser Arg Gly Thr Phe Asn Pro Glu Lys Gly
85 90 95

Lys Gln Lys Leu Lys Asn Val Lys Asn Ser Pro Gln Lys Thr Lys Glu
 100 105 110

Thr Pro Glu Gly Thr Val Met Ser Gly Arg Arg Lys Thr Val Asp Pro
 115 120 125

Asp Cys Thr Ser Asn Gln Gln
 130 135

<210> 229

<211> 206

<212> PRT

<213> Shigella Flexneri

<400> 229

Met Gly Ile Gly Leu Ser Ala Gln Gly Val Asn Met Asn Arg Leu Pro
 1 5 10 15

Gly Trp Asp Lys His Ser Tyr Gly Tyr His Gly Asp Asp Gly His Ser
 20 25 30

Phe Cys Ser Ser Gly Thr Gly Gln Pro Tyr Gly Pro Thr Phe Thr Thr
 35 40 45

Gly Asp Val Ile Gly Cys Cys Val Asn Leu Ile Asn Asn Thr Cys Phe
 50 55 60

Tyr Thr Lys Asn Gly His Ser Leu Gly Ile Ala Phe Thr Asp Leu Pro
 65 70 75 80

Pro Asn Leu Tyr Pro Thr Val Gly Leu Gln Thr Pro Gly Glu Val Val
 85 90 95

Asp Ala Asn Phe Gly Gln His Pro Phe Val Phe Asp Ile Glu Asp Tyr
 100 105 110

Met Arg Glu Trp Arg Thr Lys Ile Gln Ala Gln Ile Asp Arg Phe Pro
 115 120 125

Ile Gly Asp Arg Glu Gly Glu Trp Gln Thr Met Ile Gln Lys Met Val
 130 135 140

Ser Ser Tyr Leu Val His His Gly Tyr Cys Ala Thr Ala Glu Ala Phe
 145 150 155 160

Ala Arg Ser Thr Asp Gln Thr Val Leu Glu Glu Leu Ala Ser Ile Lys
 165 170 175

Asn Arg Gln Arg Ile Gln Lys Leu Val Leu Ala Gly Arg Met Gly Glu
 180 185 190

Ala Ile Glu Thr Thr Gln Gln Leu Tyr Pro Ser Leu Leu Glu
 195 200 205

<210> 230

<211> 96

<212> PRT

<213> Shigella Flexneri

<400> 230

Phe His Thr Gly Thr Pro Ser Glu Gly His Gln His Gln Arg Pro Lys
 1 5 10 15

Val Asp Lys Ser Thr Lys Leu Arg Lys Asn Gln Cys Lys Lys Ala Glu
 20 25 30

Asn Ser Lys Asn Gln Lys Gly Ser Ser Pro Pro Lys Asp Gln Asn Ser
 35 40 45

Ser Pro Ala Arg Glu Gln Asn Gln Met Glu Asn Glu Phe Asp Glu Leu
 50 55 60

Thr Glu Val Gly Phe Arg Arg Trp Val Ile Thr Ser Lys Leu Lys Glu
 65 70 75 80

His Val Leu Thr Gln Cys Lys Glu Val Lys Asn Leu Glu Lys Arg Leu
 85 90 95

<210> 231
 <211> 65
 <212> PRT
 <213> Shigella Flexneri

<220>
 <221> MISC_FEATURE
 <222> (76)..(76)
 <223> MISC_FEATURE

<220>
 <221> MISC_FEATURE
 <222> (78)..(78)
 <223> MISC_FEATURE

<220>
 <221> MISC_FEATURE
 <222> (80)..(80)
 <223> MISC_FEATURE

<220>
 <221> MISC_FEATURE
 <222> (82)..(82)
 <223> MISC_FEATURE

<400> 231

Ala	Val	Asp	Gly	Glu	Gly	Ala	Gly	Leu	Thr	Ser	Glu	Ala	Trp	Lys	Tyr
1				5				10						15	

Gln Val Thr Ser His Arg Glu Asp Arg Phe Pro Leu Ser Ser Arg Leu

20

25

30

Arg Leu Ala Leu Lys Asn Leu Gly Ala Asp Arg His Arg Ala Gly Ser
 35 40 45

Leu Val Glu Gln Glu Leu Ser Gly Leu Phe Ser Leu Met Ser Gly Arg
 50 55 60

Lys
 65

<210> 232

<211> 431

<212> PRT

<213> Shigella Flexneri

<400> 232

Met Trp Ala Leu Gly Gln Ala Gly Phe Ala Asn Leu Thr Glu Gly Leu
 1 5 10 15

Lys Val Trp Leu Gly Ile Met Leu Pro Val Leu Gly Ile Lys Ser Leu
 20 25 30

Ser Pro Phe Ala Ile Thr Tyr Leu Asp Arg Leu Leu Leu Met His Pro
 35 40 45

Asn Leu Thr Lys Gly Phe Gly Met Ile Gly Pro Lys Asp Phe Phe Pro
 50 55 60

Leu Leu Asp Phe Ala Tyr Met Pro Asn Asn Ser Leu Thr Pro Ser Leu
 65 70 75 80

Gln Glu Gln Leu Cys Gln Leu Tyr Pro Arg Leu Lys Val Leu Ala Phe
 85 90 95

Gly Ala Lys Pro Asp Ser Thr Leu His Thr Tyr Phe Pro Ser Phe Leu
 100 105 110

Ser Arg Ala Thr Pro Ser Cys Pro Pro Glu Met Lys Lys Glu Leu Leu
 115 120 125

Ser Ser Leu Thr Glu Cys Leu Thr Val Asp Pro Leu Ser Ala Ser Val
 130 135 140

Trp Arg Gln Leu Tyr Pro Lys His Leu Ser Gln Ser Ser Leu Leu Leu
 145 150 155 160

Glu His Leu Leu Ser Ser Trp Glu Gln Ile Pro Lys Lys Val Gln Lys
 165 170 175

Ser Leu Gln Glu Thr Ile Gln Ser Leu Lys Leu Thr Asn Gln Glu Leu
 180 185 190

Leu Arg Lys Gly Ser Ser Asn Asn Gln Asp Val Val Thr Cys Asp Met
 195 200 205

Ala Cys Lys Gly Leu Leu Gln Gln Val Gln Gly Pro Arg Leu Pro Trp
 210 215 220

Thr Arg Leu Leu Leu Leu Leu Leu Val Phe Ala Val Gly Phe Leu Cys
 225 230 235 240

His Asp Leu Arg Ser His Ser Ser Phe Gln Ala Ser Leu Thr Gly Arg
 245 250 255

Leu Leu Arg Ser Ser Gly Phe Leu Pro Ala Ser Gln Gln Ala Cys Ala
 260 265 270

Lys Leu Tyr Ser Tyr Ser Leu Gln Gly Tyr Ser Trp Leu Gly Glu Thr
 275 280 285

Leu Pro Leu Trp Gly Ser His Leu Leu Thr Val Val Arg Pro Ser Leu
 290 295 300

Gln Leu Ala Trp Ala His Thr Asn Ala Thr Val Ser Phe Leu Ser Ala
 305 310 315 320

His Cys Ala Ser His Leu Ala Trp Phe Gly Asp Ser Leu Thr Ser Leu
 325 330 335

Ser Gln Arg Leu Gln Ile Gln Leu Pro Asp Ser Val Asn Gln Leu Leu
 340 345 350

Arg Tyr Leu Arg Glu Leu Pro Leu Leu Phe His Gln Asn Val Leu Leu
 355 360 365

Pro Leu Trp His Leu Leu Leu Glu Ala Leu Ala Trp Ala Gln Glu His
 370 375 380

Cys His Glu Ala Cys Arg Gly Glu Val Thr Trp Asp Cys Met Lys Thr
 385 390 395 400

Gln Leu Ser Glu Ala Val His Trp Thr Trp Leu Cys Leu Gln Asp Ile
 405 410 415

Thr Val Ala Phe Leu Asp Trp Ala Leu Ala Leu Ile Ser Gln Gln
 420 425 430

<210> 233

<211> 158

<212> PRT

<213> Shigella Flexneri

<400> 233

Met Gly Ile Gly Leu Ser Ala Gln Gly Val Asn Met Asn Arg Leu Pro
 1 5 10 15

Gly Trp Asp Lys His Ser Tyr Gly Tyr His Gly Asp Asp Gly His Ser
 20 25 30

Phe Cys Ser Ser Gly Thr Gly Gln Pro Tyr Gly Pro Thr Phe Thr Thr
 35 40 45

Gly Asp Val Ile Gly Cys Cys Val Asn Leu Ile Asn Asn Thr Cys Phe
 50 55 60

Tyr Thr Lys Asn Gly His Ser Leu Gly Ile Ala Phe Thr Asp Leu Pro
 65 70 75 80

Pro Asn Leu Tyr Pro Thr Val Gly Leu Gln Thr Pro Gly Glu Val Val
 85 90 95

Asp Ala Asn Phe Gly Gln His Pro Phe Val Phe Asp Ile Glu Asp Tyr
 100 105 110

Met Arg Glu Trp Arg Thr Lys Ile Gln Ala Gln Ile Asp Arg Phe Pro
 115 120 125

Ile Gly Asp Arg Glu Gly Glu Trp Gln Thr Met Ile Gln Lys Met Val
 130 135 140

Ser Ser Tyr Leu Val His His Gly Tyr Cys Ala Thr Ala Glu
 145 150 155

<210> 234

<211> 523

<212> PRT

<213> Shigella Flexneri

<400> 234

Thr Asn Leu Lys Arg Gln Ala Asn Lys Lys Ser Glu Gly Ser Leu Ala
 1 5 10 15

Tyr Val Lys Gly Gly Leu Ser Thr Phe Phe Glu Ala Gln Asp Ala Leu
 20 25 30

Ser Ala Ile His Gln Lys Leu Glu Ala Asp Gly Thr Glu Lys Val Glu
 35 40 45

Gly Ser Met Thr Gln Lys Leu Glu Asn Val Leu Asn Arg Ala Ser Asn
 50 55 60

Thr Ala Asp Thr Leu Phe Gln Glu Val Leu Gly Arg Lys Asp Lys Ala
 65 70 75 80

Asp Ser Thr Arg Asn Ala Leu Asn Val Leu Gln Arg Phe Lys Phe Leu
 85 90 95

Phe Asn Leu Pro Leu Asn Ile Glu Arg Asn Ile Gln Lys Gly Asp Tyr
 100 105 110

Asp Val Val Ile Asn Asp Tyr Glu Lys Ala Lys Ser Leu Phe Gly Lys

115

120

125

Thr Glu Val Gln Val Phe Lys Lys Tyr Tyr Ala Glu Val Glu Thr Arg
 130 135 140

Ile Glu Ala Leu Arg Glu Leu Leu Leu Asp Lys Leu Leu Glu Thr Pro
 145 150 155 160

Ser Thr Leu His Asp Gln Lys Arg Tyr Ile Arg Tyr Leu Ser Asp Leu
 165 170 175

His Ala Ser Gly Asp Pro Ala Trp Gln Cys Ile Gly Ala Gln His Lys
 180 185 190

Trp Ile Leu Gln Leu Met His Ser Cys Lys Glu Gly Tyr Val Lys Asp
 195 200 205

Leu Lys Gly Asn Pro Gly Leu His Ser Pro Met Leu Asp Leu Asp Asn
 210 215 220

Asp Thr Arg Pro Ser Val Leu Gly His Leu Ser Gln Thr Ala Ser Leu
 225 230 235 240

Lys Arg Gly Ser Ser Phe Gln Ser Gly Arg Asp Asp Thr Trp Arg Tyr
 245 250 255

Lys Thr Pro His Arg Val Ala Phe Val Glu Lys Leu Thr Lys Leu Val
 260 265 270

Leu Ser Gln Leu Pro Asn Phe Trp Lys Leu Trp Ile Ser Tyr Val Asn
 275 280 285

Gly Ser Leu Phe Ser Glu Thr Ala Glu Lys Ser Gly Gln Ile Glu Arg
 290 295 300

Ser Lys Asn Val Arg Gln Arg Gln Asn Asp Phe Lys Lys Met Ile Gln
 305 310 315 320

Glu Val Met His Ser Leu Val Lys Leu Thr Arg Gly Ala Leu His Pro
 325 330 335

Leu Ser Ile Arg Asp Gly Glu Ala Lys Gln Tyr Gly Gly Trp Glu Val
 340 345 350

Lys Cys Glu Leu Ser Gly Gln Trp Leu Ala His Ala Ile Gln Thr Val
 355 360 365

Arg Leu Thr His Glu Ser Leu Thr Ala Leu Glu Ile Pro Asn Asp Leu
 370 375 380

Leu Gln Thr Ile Gln Asp Leu Ile Leu Asp Leu Arg Val Arg Cys Val
 385 390 395 400

Met Ala Thr Leu Gln His Thr Ala Glu Glu Ile Lys Arg Leu Ala Glu
 405 410 415

Lys Glu Asp Trp Ile Val Asp Asn Glu Gly Leu Thr Ser Leu Pro Cys
 420 425 430

Gln Phe Glu Gln Cys Ile Val Cys Ser Leu Gln Ser Leu Lys Gly Val
 435 440 445

Leu Glu Cys Lys Pro Gly Glu Ala Ser Val Phe Gln Gln Pro Lys Thr
 450 455 460

Gln Glu Glu Val Cys Gln Leu Ser Ile Asn Ile Met Gln Val Phe Ile
 465 470 475 480

Tyr Cys Leu Glu Gln Leu Ser Thr Lys Pro Asp Ala Asp Ile Asp Thr
 485 490 495

Thr His Leu Ser Val Asp Val Ser Ser Pro Asp Leu Phe Gly Ser Ile
 500 505 510

His Glu Asp Phe Ser Leu Thr Ser Glu Gln Arg
 515 520

<210> 235

<211> 61

<212> PRT

<213> Shigella Flexneri

<220>

<221> MISC_FEATURE

<222> (34)..(34)

<223> MISC_FEATURE

<400> 235

Gln Tyr Lys Lys Ala Leu Glu Asn Glu Thr Asn Glu Glu Lys Ser Gly
1 5 10 15

Thr Pro Gly Ala Asp Lys Ala Glu Lys Arg Tyr Lys Tyr Thr Val Lys
20 25 30

Leu Xaa Pro Val Ser Leu Tyr Ser Ser Arg Glu Ala Thr Arg Ile Tyr
35 40 45

Lys Glu Asn Gly Ser Gln Arg Arg Ser Glu Lys Arg Thr
50 55 60

<210> 236

<211> 96

<212> PRT

<213> Shigella Flexneri

<400> 236

Pro Glu Ile Cys Lys Met Ala Asp Asn Leu Asp Glu Phe Ile Glu Glu
1 5 10 15

Gln Lys Ala Arg Leu Ala Glu Asp Lys Ala Glu Leu Glu Ser Asp Pro
20 25 30

Pro Tyr Met Glu Met Lys Gly Lys Leu Ser Ala Lys Leu Ser Glu Asn
35 40 45

Ser Lys Ile Leu Ile Ser Met Ala Lys Glu Asn Ile Pro Pro Asn Ser
50 55 60

Gln Gln Thr Arg Gly Ser Leu Gly Ile Asp Tyr Gly Leu Ser Leu Pro
65 70 75 80

Leu Gly Glu Asp Tyr Glu Arg Lys Lys His Lys Leu Lys Glu Glu Leu
 85 90 95

<210> 237

<211> 128

<212> PRT

<213> Shigella Flexneri

<400> 237

Asp Gln Gly Thr Pro Gln Tyr Met Glu Asn Met Glu Gln Val Phe Glu
 1 5 10 15

Gln Cys Gln Gln Phe Glu Glu Lys Arg Leu Arg Phe Phe Arg Glu Val
 20 25 30

Leu Leu Glu Val Gln Lys His Leu Asn Leu Ser Asn Val Ala Gly Tyr
 35 40 45

Lys Ala Ile Tyr His Asp Leu Glu Gln Ser Ile Arg Ala Ala Asp Ala
 50 55 60

Val Glu Asp Leu Arg Trp Phe Arg Ala Asn His Gly Pro Gly Met Ala
 65 70 75 80

Met Asn Trp Pro Gln Phe Glu Glu Trp Ser Ala Asp Leu Ile Arg Thr
 85 90 95

Leu Ser Arg Arg Glu Lys Lys Lys Ala Thr Asp Gly Phe Thr Leu Thr
 100 105 110

Gly Ile Asn Gln Thr Gly Asp Gln Phe Leu Pro Ser Lys Pro Ser Ser
 115 120 125

<210> 238

<211> 212

<212> PRT

<213> Shigella Flexneri

<400> 238

Pro Pro Ala Met Asp Trp Ile Phe Gln Cys Ile Ser Tyr His Ala Pro
 1 5 10 15

Glu Ala Leu Leu Thr Glu Met Met Glu Arg Cys Lys Lys Leu Gly Asn
 20 25 30

Asn Ala Leu Leu Leu Asn Ser Val Met Ser Ala Phe Arg Ala Glu Phe
 35 40 45

Ile Ala Thr Arg Ser Met Asp Phe Ile Gly Met Ile Lys Glu Cys Asp
 50 55 60

Glu Ser Gly Phe Pro Lys His Leu Leu Phe Arg Ser Leu Gly Leu Asn
 65 70 75 80

Leu Ala Leu Ala Asp Pro Pro Glu Ser Asp Arg Leu Gln Ile Leu Asn
 85 90 95

Glu Ala Trp Lys Val Ile Thr Lys Leu Lys Asn Pro Gln Asp Tyr Ile
 100 105 110

Asn Cys Ala Glu Val Trp Val Glu Tyr Thr Cys Lys His Phe Thr Lys
 115 120 125

Arg Glu Val Asn Thr Val Leu Ala Asp Val Ile Lys His Met Thr Pro
 130 135 140

Asp Arg Ala Phe Glu Asp Ser Tyr Pro Gln Leu Gln Leu Ile Ile Lys
 145 150 155 160

Lys Val Ile Ala His Phe His Asp Phe Ser Val Leu Phe Ser Val Glu
 165 170 175

Lys Phe Leu Pro Phe Leu Asp Met Phe Gln Lys Glu Ser Val Arg Val
 180 185 190

Glu Val Cys Lys Cys Ile Met Asp Ala Phe Ile Lys His Gln Gln Glu
 195 200 205

Pro Thr Lys Asp
210

<210> 239

<211> 156

<212> PRT

<213> Shigella Flexneri

<400> 239

Phe Arg Leu Glu Gln Leu Glu Cys Leu Asp Asp Ala Glu Lys Lys Leu
1 5 10 15

Asn Leu Ala Gln Lys Cys Phe Lys Asn Cys Tyr Gly Glu Asn His Gln
20 25 30

Arg Leu Val His Ile Lys Gly Asn Cys Gly Lys Glu Lys Val Leu Phe
35 40 45

Leu Arg Leu Tyr Leu Leu Gln Gly Ile Arg Asn Tyr His Ser Gly Asn
50 55 60

Asp Val Glu Ala Tyr Glu Tyr Leu Asn Arg His Val Ser Ser Leu Lys
65 70 75 80

Ser Tyr Ile Leu Ile His Gln Lys Trp Thr Ile Cys Cys Ser Trp Gly
85 90 95

Leu Leu Pro Arg Lys His Arg Leu Gly Leu Arg Ala Cys Asp Gly Asn
100 105 110

Val Asp His Ala Ala Thr His Ile Thr Asn Arg Arg Glu Glu Leu Ala
115 120 125

Gln Ile Arg Lys Glu Glu Lys Glu Lys Lys Arg Arg Arg Leu Glu Asn
130 135 140

Ile Arg Phe Leu Lys Gly Met Gly Tyr Ser Thr His
145 150 155

<210> 240

<211> 116

<212> PRT

<213> Shigella Flexneri

<400> 240

Asn	Lys	Leu	Arg	Val	Leu	Asp	Pro	Glu	Val	Thr	Gln	Gln	Thr	Ile	Glu
1				5					10					15	

Leu	Lys	Glu	Glu	Cys	Lys	Asp	Phe	Val	Asp	Lys	Ile	Gly	Gln	Phe	Gln
		20						25					30		

Lys	Ile	Val	Gly	Gly	Leu	Ile	Glu	Leu	Val	Asp	Gln	Leu	Ala	Lys	Glu
	35						40					45			

Ala	Glu	Asn	Glu	Lys	Met	Lys	Ala	Ile	Gly	Ala	Arg	Asn	Leu	Leu	Lys
	50					55					60				

Ser	Ile	Ala	Lys	Gln	Arg	Glu	Ala	Gln	Gln	Gln	Gln	Leu	Gln	Ala	Leu
65					70					75					80

Ile	Ala	Glu	Lys	Lys	Met	Gln	Leu	Glu	Arg	Tyr	Arg	Val	Glu	Tyr	Glu
				85					90					95	

Ala	Leu	Cys	Lys	Val	Glu	Ala	Glu	Gln	Asn	Glu	Phe	Ile	Asp	Gln	Phe
			100					105						110	

Ile	Phe	Gln	Lys
			115

<210> 241

<211> 342

<212> PRT

<213> Shigella Flexneri

<400> 241

Met	Ala	Val	Glu	Thr	Leu	Ser	Pro	Asp	Trp	Glu	Phe	Asp	Arg	Val	Asp
1					5				10					15	

Asp Gly Ser Gln Lys Ile His Ala Glu Val Gln Leu Lys Asn Tyr Gly
 20 25 30

Lys Phe Leu Glu Glu Tyr Thr Ser Gln Leu Arg Arg Ile Glu Asp Ala
 35 40 45

Leu Asp Asp Ser Ile Gly Asp Val Trp Asp Phe Asn Leu Asp Pro Ile
 50 55 60

Ala Leu Lys Leu Leu Pro Tyr Glu Gln Ser Ser Leu Leu Glu Leu Ile
 65 70 75 80

Lys Thr Glu Asn Lys Val Leu Asn Lys Val Ile Thr Val Tyr Ala Ala
 85 90 95

Leu Cys Cys Glu Ile Lys Lys Leu Lys Tyr Glu Ala Glu Thr Lys Phe
 100 105 110

Tyr Asn Gly Leu Leu Phe Tyr Gly Glu Gly Ala Thr Asp Ala Ser Met
 115 120 125

Val Glu Gly Asp Cys Gln Ile Gln Met Gly Arg Phe Ile Ser Phe Leu
 130 135 140

Gln Glu Leu Ser Cys Phe Val Thr Arg Cys Tyr Glu Val Val Met Asn
 145 150 155 160

Val Val His Gln Leu Ala Ala Leu Tyr Ile Ser Asn Lys Ile Ala Pro
 165 170 175

Lys Ile Ile Glu Thr Thr Gly Val His Phe Gln Thr Met Tyr Glu His
 180 185 190

Leu Gly Glu Leu Leu Thr Val Leu Leu Thr Leu Asp Glu Ile Ile Asp
 195 200 205

Asn His Ile Thr Leu Lys Asp His Trp Thr Met Tyr Lys Arg Leu Leu
 210 215 220

Lys Ser Val His His Asn Pro Ser Lys Phe Gly Ile Gln Glu Glu Lys
 225 230 235 240

Cys Cys Gln Leu Cys Cys Ser Val Phe Lys Asp Pro Val Ile Thr Thr
50 55 60

Cys Gly His Thr Phe Cys Arg Arg Cys Ala Leu Lys Ser Glu Lys Cys
65 70 75 80

Pro Val Asp Asn Val Lys Leu Thr Val Val Val Asn Asn Ile Ala Val
85 90 95

Ala Glu Gln Ile Gly Glu Leu Phe Ile His Cys Arg His Gly Cys Arg
100 105 110

Val Ala Gly Ser Gly Lys Pro Pro Ile Phe Glu Val Asp Pro Arg Gly
115 120 125

Cys Pro Phe Thr Ile Lys Leu Ser Ala Arg Lys Asp His Glu Gly Ser
130 135 140

Cys Asp Tyr Arg Pro Val Arg Cys Pro Asn Asn Pro Ser Cys Pro Pro
145 150 155 160

Leu Leu Arg Met Asn Leu Glu Ala His Leu Lys Glu Cys Glu His Ile
165 170 175

Lys Cys Pro His Ser Lys Tyr Gly Cys Thr Phe Ile Gly Asn Gln Asp
180 185 190

Thr Tyr Glu Thr His Leu Glu Thr Cys Arg Phe Glu Gly Leu Lys Glu
195 200 205

Phe Leu Gln Gln Thr Asp Asp Arg Phe His Glu Met His Val Ala Leu
210 215 220

Ala Gln Lys Asp Gln Glu Ile Ala Phe Leu Arg Ser Met Leu Gly Lys
225 230 235 240

Leu Ser Glu Lys Ile Asp
245

<210> 243

<211> 45

<212> PRT

<213> Shigella Flexneri

<400> 243

Arg Lys Leu His Glu Leu Thr Val Met Gln Asp Arg Arg Glu Gln Ala
 1 5 10 15

Arg Gln Asp Leu Lys Gly Leu Glu Glu Thr Val Ala Lys Glu Leu Gln
 20 25 30

Thr Leu His Asn Leu Arg Lys Leu Phe Val Gln Asp Leu
 35 40 45

<210> 244

<211> 379

<212> PRT

<213> Shigella Flexneri

<400> 244

Met Glu Glu Tyr Glu Lys Phe Cys Glu Lys Ser Leu Ala Arg Ile Gln
 1 5 10 15

Glu Ala Ser Leu Ser Thr Glu Ser Phe Leu Pro Ala Gln Ser Glu Ser
 20 25 30

Ile Ser Leu Ile Arg Phe His Gly Val Ala Ile Leu Ser Pro Leu Leu
 35 40 45

Asn Ile Glu Lys Arg Lys Glu Met Gln Gln Glu Lys Gln Lys Ala Leu
 50 55 60

Asp Val Glu Ala Arg Lys Gln Val Asn Arg Lys Lys Ala Leu Leu Thr
 65 70 75 80

Arg Val Gln Glu Ile Leu Asp Asn Val Gln Val Arg Lys Ala Pro Asn
 85 90 95

Ala Ser Asp Phe Asp Gln Trp Glu Met Glu Thr Val Tyr Ser Asn Ser
 100 105 110

Glu Val Arg Asn Leu Asn Val Pro Ala Thr Phe Pro Asn Ser Phe Pro
 115 120 125

Ser His Thr Glu His Ser Thr Ala Ala Lys Leu Asp Lys Ile Ala Gly
 130 135 140

Ile Leu Pro Leu Asp Asn Glu Asp Gln Cys Lys Thr Asp Gly Ile Asp
 145 150 155 160

Leu Ala Arg Asp Ser Glu Gly Phe Asn Ser Pro Lys Gln Cys Asp Ser
 165 170 175

Ser Asn Ile Ser His Val Glu Asn Glu Ala Phe Pro Lys Thr Ser Ser
 180 185 190

Ala Thr Pro Gln Glu Thr Leu Ile Ser Asp Gly Pro Phe Ser Val Asn
 195 200 205

Glu Gln Gln Asp Leu Pro Leu Leu Ala Glu Val Ile Pro Asp Pro Tyr
 210 215 220

Val Met Ser Leu Gln Asn Leu Met Lys Lys Ser Lys Glu Tyr Ile Glu
 225 230 235 240

Arg Glu Gln Ser Arg Arg Ser Leu Arg Gly Ser Met Asn Arg Ile Val
 245 250 255

Asn Glu Ser His Leu Asp Lys Glu His Asp Ala Val Glu Val Ala Asp
 260 265 270

Cys Val Lys Glu Lys Gly Gln Leu Thr Gly Lys His Cys Val Ser Val
 275 280 285

Ile Pro Asp Lys Pro Ser Leu Asn Lys Ser Asn Val Leu Leu Gln Gly
 290 295 300

Ala Ser Thr Gln Ala Ser Ser Met Ser Met Pro Val Leu Ala Ser Phe
 305 310 315 320

Ser Lys Val Asp Ile Pro Ile Arg Thr Gly His Pro Thr Val Leu Glu
 325 330 335

Ser Asn Ser Asp Phe Lys Val Ile Pro Thr Ile Val Thr Glu Asn Asn
 340 345 350

Val Ile Lys Ser Leu Thr Gly Ser Tyr Ala Lys Leu Pro Ser Pro Glu
 355 360 365

Pro Ser Met Ser Pro Lys Met His Arg Arg Arg
 370 375

<210> 245

<211> 266

<212> PRT

<213> Shigella Flexneri

<400> 245

Asp Ser Pro Thr Ser Gly Arg Pro Gly Val Thr Ser Leu Thr Thr Ala
 1 5 10 15

Ala Ala Phe Lys Pro Val Gly Ser Thr Gly Val Ile Lys Ser Pro Ser
 20 25 30

Trp Gln Arg Pro Asn Gln Gly Val Pro Ser Thr Gly Arg Ile Ser Asn
 35 40 45

Ser Ala Thr Tyr Ser Gly Ser Val Ala Pro Ala Asn Ser Ala Leu Gly
 50 55 60

Gln Thr Gln Pro Ser Asp Gln Asp Thr Leu Val Gln Arg Ala Glu His
 65 70 75 80

Ile Pro Ala Gly Lys Arg Thr Pro Met Cys Ala His Cys Asn Gln Val
 85 90 95

Ile Arg Gly Pro Phe Leu Val Ala Leu Gly Lys Ser Trp His Pro Glu
 100 105 110

Glu Phe Asn Cys Ala His Cys Lys Asn Thr Met Ala Tyr Ile Gly Phe
 115 120 125

Val Glu Glu Lys Gly Ala Leu Tyr Cys Glu Leu Cys Tyr Glu Lys Phe
 130 135 140

Phe Ala Pro Glu Cys Gly Arg Cys Gln Arg Lys Ile Leu Gly Glu Val
145 150 155 160

Ile Asn Ala Leu Lys Gln Thr Trp His Val Ser Cys Phe Val Cys Val
165 170 175

Ala Cys Gly Lys Pro Ile Arg Asn Asn Val Phe His Leu Glu Asp Gly
180 185 190

Glu Pro Tyr Cys Glu Thr Asp Tyr Tyr Ala Leu Phe Gly Thr Ile Cys
195 200 205

His Gly Cys Glu Phe Pro Ile Glu Ala Gly Asp Met Phe Leu Glu Ala
210 215 220

Leu Gly Tyr Thr Trp His Asp Thr Cys Phe Val Cys Ser Val Cys Cys
225 230 235 240

Glu Ser Leu Glu Gly Gln Thr Phe Phe Ser Lys Lys Asp Lys Pro Leu
245 250 255

Cys Lys Lys His Ala His Ser Val Asn Phe
260 265

<210> 246

<211> 237

<212> PRT

<213> Shigella Flexneri

<400> 246

Phe Tyr Arg Arg His Thr Pro Tyr Met Val Gln Pro Glu Tyr Arg Ile
1 5 10 15

Tyr Glu Met Asn Lys Arg Leu Gln Ser Arg Thr Glu Asp Ser Asp Asn
20 25 30

Leu Trp Trp Asp Ala Phe Ala Thr Glu Phe Phe Glu Asp Asp Ala Thr
35 40 45

Leu Thr Leu Ser Phe Cys Leu Glu Asp Gly Pro Lys Arg Tyr Thr Ile

50

55

60

Gly Arg Thr Leu Ile Pro Arg Tyr Phe Ser Thr Val Phe Glu Gly Gly
 65 70 75 80

Val Thr Asp Leu Tyr Tyr Ile Leu Lys His Ser Lys Glu Ser Tyr His
 85 90 95

Asn Ser Ser Ile Thr Val Asp Cys Asp Gln Cys Thr Met Val Thr Gln
 100 105 110

His Gly Lys Pro Met Phe Thr Lys Val Cys Thr Glu Gly Arg Leu Ile
 115 120 125

Leu Glu Phe Thr Phe Asp Asp Leu Met Arg Ile Lys Thr Trp His Phe
 130 135 140

Thr Ile Arg Gln Tyr Arg Glu Leu Val Pro Arg Ser Ile Leu Ala Met
 145 150 155 160

His Ala Gln Asp Pro Gln Val Leu Asp Gln Leu Ser Lys Asn Ile Thr
 165 170 175

Arg Met Gly Leu Thr Asn Phe Thr Leu Asn Tyr Leu Arg Leu Cys Val
 180 185 190

Ile Leu Glu Pro Met Gln Glu Leu Met Ser Arg His Lys Thr Tyr Asn
 195 200 205

Leu Ser Pro Arg Asp Cys Leu Lys Thr Cys Leu Phe Gln Lys Trp Gln
 210 215 220

Arg Met Val Ala Pro Pro Ala Glu Pro Thr Arg Gln Pro
 225 230 235

<210> 247

<211> 227

<212> PRT

<213> Shigella Flexneri

<400> 247

Met Leu Asp Arg Asp Val Gly Pro Thr Pro Met Tyr Pro Pro Thr Tyr
 1 5 10 15

Leu Glu Pro Gly Ile Gly Arg His Thr Pro Tyr Gly Asn Gln Thr Asp
 20 25 30

Tyr Arg Ile Phe Glu Leu Asn Lys Arg Leu Gln Asn Trp Thr Glu Glu
 35 40 45

Cys Asp Asn Leu Trp Trp Asp Ala Phe Thr Thr Glu Phe Phe Glu Asp
 50 55 60

Asp Ala Met Leu Thr Ile Thr Phe Cys Leu Glu Asp Gly Pro Lys Arg
 65 70 75 80

Tyr Thr Ile Gly Arg Thr Leu Ile Pro Arg Tyr Phe Arg Ser Ile Phe
 85 90 95

Glu Gly Gly Ala Thr Glu Leu Tyr Tyr Val Leu Lys His Pro Lys Glu
 100 105 110

Ala Phe His Ser Asn Phe Val Ser Leu Asp Cys Asp Gln Gly Ser Met
 115 120 125

Val Thr Gln His Gly Lys Pro Met Phe Thr Gln Val Cys Val Glu Gly
 130 135 140

Arg Leu Tyr Leu Glu Phe Met Phe Asp Asp Met Met Arg Ile Lys Thr
 145 150 155 160

Trp His Phe Ser Ile Arg Gln His Arg Glu Leu Ile Pro Arg Ser Ile
 165 170 175

Leu Ala Met His Ala Gln Asp Pro Gln Met Leu Asp Gln Leu Ser Lys
 180 185 190

Asn Ile Thr Arg Cys Gly Leu Ser Asn Ser Thr Leu Asn Tyr Leu Arg
 195 200 205

Leu Cys Val Ile Leu Glu Pro Met Gln Glu Leu Met Ser Arg His Lys
 210 215 220

Thr Tyr Ser
225

<210> 248

<211> 302

<212> PRT

<213> Shigella Flexneri

<400> 248

Val Thr Ala Ser Thr Thr Cys Glu Lys Leu Glu Lys Ala Arg Asn Glu
1 5 10 15

Leu Gln Thr Val Tyr Glu Ala Phe Val Gln Gln His Gln Ala Glu Lys
20 25 30

Thr Glu Arg Glu Asn Arg Leu Lys Glu Phe Tyr Thr Arg Glu Tyr Glu
35 40 45

Lys Leu Arg Asp Thr Tyr Ile Glu Glu Ala Glu Lys Tyr Lys Met Gln
50 55 60

Leu Gln Glu Gln Phe Asp Asn Leu Asn Ala Ala His Glu Thr Ser Lys
65 70 75 80

Leu Glu Ile Glu Ala Ser His Ser Glu Lys Leu Glu Leu Leu Lys Lys
85 90 95

Ala Tyr Glu Ala Ser Leu Ser Glu Ile Lys Lys Gly His Glu Ile Glu
100 105 110

Lys Lys Ser Leu Glu Asp Leu Leu Ser Glu Lys Gln Glu Ser Leu Glu
115 120 125

Lys Gln Ile Asn Asp Leu Lys Ser Glu Asn Asp Ala Leu Asn Glu Lys
130 135 140

Leu Lys Ser Glu Glu Gln Lys Arg Arg Ala Arg Glu Lys Ala Asn Leu
145 150 155 160

Lys Asn Pro Gln Ile Met Tyr Leu Glu Gln Glu Leu Glu Ser Leu Lys
165 170 175

Ala Val Leu Glu Ile Lys Asn Glu Lys Leu His Gln Gln Asp Ile Lys
180 185 190

Leu Met Lys Met Glu Lys Leu Val Asp Asn Asn Thr Ala Leu Val Asp
195 200 205

Lys Leu Lys Arg Phe Gln Gln Glu Asn Glu Glu Leu Lys Ala Arg Met
210 215 220

Asp Lys His Met Ala Ile Ser Arg Gln Leu Ser Thr Glu Gln Ala Val
225 230 235 240

Leu Gln Glu Ser Leu Glu Lys Glu Ser Lys Val Asn Lys Arg Leu Ser
245 250 255

Met Glu Asn Glu Glu Leu Leu Trp Lys Leu His Asn Gly Asp Leu Cys
260 265 270

Ser Pro Lys Arg Ser Pro Thr Ser Ser Ala Ile Pro Leu Gln Ser Pro
275 280 285

Arg Asn Ser Gly Ser Phe Pro Ser Pro Ser Ile Ser Pro Arg
290 295 300

<210> 249

<211> 376

<212> PRT

<213> Shigella Flexneri

<400> 249

Ser Leu Pro Pro Ser Thr Gly Thr Phe Gln Glu Ala Gln Ser Arg Leu
1 5 10 15

Asn Glu Ala Ala Ala Gly Leu Asn Gln Ala Ala Thr Glu Leu Val Gln
20 25 30

Ala Ser Arg Gly Thr Pro Gln Asp Leu Ala Arg Ala Ser Gly Arg Phe

35

40

45

Gly Gln Asp Phe Ser Thr Phe Leu Glu Ala Gly Val Glu Met Ala Gly
 50 55 60

Gln Ala Pro Ser Gln Glu Asp Arg Ala Gln Val Val Ser Asn Leu Lys
 65 70 75 80

Gly Ile Ser Met Ser Ser Ser Lys Leu Leu Leu Ala Ala Lys Ala Leu
 85 90 95

Ser Thr Asp Pro Ala Ala Pro Asn Leu Lys Ser Gln Leu Ala Ala Ala
 100 105 110

Ala Arg Ala Val Thr Asp Ser Ile Asn Gln Leu Ile Thr Met Cys Thr
 115 120 125

Gln Gln Ala Pro Gly Gln Lys Glu Cys Asp Asn Ala Leu Arg Glu Leu
 130 135 140

Glu Thr Val Arg Glu Leu Leu Glu Asn Pro Val Gln Pro Ile Asn Asp
 145 150 155 160

Met Ser Tyr Phe Gly Cys Leu Asp Ser Val Met Glu Asn Ser Lys Val
 165 170 175

Leu Gly Glu Ala Met Thr Gly Ile Ser Gln Asn Ala Lys Asn Gly Asn
 180 185 190

Leu Pro Glu Phe Gly Asp Ala Ile Ser Thr Ala Ser Lys Ala Leu Cys
 195 200 205

Gly Phe Thr Glu Ala Ala Ala Gln Ala Ala Tyr Leu Val Gly Val Ser
 210 215 220

Asp Pro Asn Ser Gln Ala Gly Gln Gln Gly Leu Val Glu Pro Thr Gln
 225 230 235 240

Phe Ala Arg Ala Asn Gln Ala Ile Gln Met Ala Cys Gln Ser Leu Gly
 245 250 255

Glu Pro Gly Cys Thr Gln Ala Gln Val Leu Ser Ala Ala Thr Ile Val
 260 265 270

Ala Lys His Thr Ser Ala Leu Cys Asn Ser Cys Arg Leu Ala Ser Ala
 275 280 285

Arg Thr Thr Asn Pro Thr Ala Lys Arg Gln Phe Val Gln Ser Ala Lys
 290 295 300

Glu Val Ala Asn Ser Thr Ala Asn Leu Val Lys Thr Ile Lys Ala Leu
 305 310 315 320

Asp Gly Ala Phe Thr Glu Glu Asn Arg Ala Gln Cys Arg Ala Ala Thr
 325 330 335

Ala Pro Leu Leu Glu Ala Val Asp Asn Leu Ser Ala Phe Ala Ser Asn
 340 345 350

Pro Glu Phe Ser Ser Ile Pro Ala Gln Ile Ser Pro Glu Gly Arg Ala
 355 360 365

Ala Met Glu Pro Ile Val Ile Ser
 370 375

<210> 250

<211> 99

<212> PRT

<213> Shigella Flexneri

<400> 250

Glu Asp Leu Gln Pro Pro Ser Ala Leu Ser Ala Pro Phe Thr Asn Ser
 1 5 10 15

Leu Ala Arg Ser Ala Arg Gln Ser Val Leu Arg Tyr Ser Thr Leu Pro
 20 25 30

Gly Arg Arg Ala Leu Lys Asn Ser Arg Leu Val Ser Gln Lys Asp Asp
 35 40 45

Val His Val Cys Ile Leu Cys Leu Arg Ala Ile Met Asn Tyr Gln Tyr
 50 55 60

Gly Phe Asn Leu Val Met Ser His Pro His Ala Val Asn Glu Ile Ala
 65 70 75 80

Leu Ser Leu Asn Asn Lys Asn Pro Arg Thr Lys Ala Leu Val Leu Glu
 85 90 95

Leu Leu Ala

<210> 251

<211> 228

<212> PRT

<213> Shigella Flexneri

<400> 251

Lys Arg His Glu Arg Met Ile Lys Asn Arg Glu Ser Ala Cys Gln Ser
 1 5 10 15

Arg Arg Lys Lys Lys Glu Tyr Leu Gln Gly Leu Glu Ala Arg Leu Gln
 20 25 30

Ala Val Leu Ala Asp Asn Gln Gln Leu Arg Arg Glu Asn Ala Ala Leu
 35 40 45

Arg Arg Arg Leu Glu Ala Leu Leu Ala Glu Asn Ser Glu Leu Lys Leu
 50 55 60

Gly Ser Gly Asn Arg Lys Val Val Cys Ile Met Val Phe Leu Leu Phe
 65 70 75 80

Ile Ala Phe Asn Phe Gly Pro Val Ser Ile Ser Glu Pro Pro Ser Ala
 85 90 95

Pro Ile Ser Pro Arg Met Asn Lys Gly Glu Pro Gln Pro Arg Arg His
 100 105 110

Leu Leu Gly Phe Ser Glu Gln Glu Pro Val Gln Gly Val Glu Pro Leu
 115 120 125

Gln Gly Ser Ser Gln Gly Pro Lys Glu Pro Gln Pro Ser Pro Thr Asp
 130 135 140

Gln Pro Ser Phe Ser Asn Leu Thr Ala Phe Pro Gly Gly Ala Lys Glu
 145 150 155 160

Leu Leu Leu Arg Asp Leu Asp Gln Leu Phe Leu Ser Ser Asp Cys Arg
 165 170 175

His Phe Asn Arg Thr Glu Ser Leu Arg Leu Ala Asp Glu Leu Ser Gly
 180 185 190

Trp Val Gln Arg His Gln Arg Gly Arg Arg Lys Ile Pro Gln Arg Ala
 195 200 205

Gln Glu Arg Gln Lys Ser Gln Pro Arg Lys Lys Ser Pro Pro Val Lys
 210 215 220

Ala Val Pro Ile
 225

<210> 252

<211> 229

<212> PRT

<213> Shigella Flexneri

<400> 252

Glu Ser Glu Val Ser Glu His Leu Ser Ala Ser Ser Ala Ser Ala Ile
 1 5 10 15

Gln Gln Asp Ser Thr Ser Ser Met Gln Pro Pro Ser Glu Ala Pro Met
 20 25 30

Val Asn Thr Val Ser Ser Ala Tyr Ser Glu Asp Phe Glu Asn Ser Pro
 35 40 45

Ser Leu Thr Ala Ser Glu Pro Thr Ala His Ser Lys Glu Ser Leu Asp
 50 55 60

Arg Thr Leu Asp Ala Leu Ser Glu Ser Ser Ser Ser Val Lys Thr Asp

65		70		75		80									
Leu	Pro	Gln	Thr	Ala	Glu	Ser	Arg	Lys	Lys	Ser	Gly	Arg	His	Val	Thr
				85					90					95	
Arg	Val	Leu	Val	Lys	Asp	Thr	Ala	Val	Gln	Thr	Pro	Asp	Pro	Ala	Phe
			100					105					110		
Thr	Tyr	Glu	Trp	Thr	Lys	Val	Ala	Ser	Met	Ala	Ala	Met	Gly	Pro	Ala
		115					120					125			
Leu	Gly	Gly	Ala	Tyr	Val	Asp	Pro	Thr	Pro	Ile	Ala	Asn	His	Val	Ile
	130					135					140				
Ser	Ala	Asp	Ala	Ile	Glu	Ala	Leu	Thr	Ala	Tyr	Ser	Pro	Ala	Val	Leu
145					150					155					160
Ala	Leu	His	Asp	Val	Leu	Lys	Gln	Gln	Leu	Ser	Leu	Thr	Gln	Gln	Phe
				165					170					175	
Ile	Gln	Ala	Ser	Arg	His	Leu	His	Ala	Ser	Leu	Leu	Arg	Ser	Leu	Asp
			180					185					190		
Ala	Asp	Ser	Phe	His	Tyr	His	Thr	Leu	Glu	Glu	Ala	Lys	Glu	Tyr	Ile
		195					200					205			
Arg	Cys	His	Arg	Pro	Ala	Pro	Leu	Thr	Met	Glu	Asp	Ala	Leu	Glu	Glu
	210					215					220				
Val	Asn	Lys	Glu	Leu											
225															
<210>	253														
<211>	151														
<212>	PRT														
<213>	Shigella Flexneri														
<400>	253														
Met	Ala	Glu	Ser	Arg	Gln	Asp	Leu	Glu	Glu	Glu	Tyr	Glu	Pro	Gln	Phe
1				5				10						15	

Leu Arg Leu Leu Glu Arg Lys Glu Ala Gly Thr Lys Ala Leu Gln Arg
 20 25 30

Thr Gln Ala Glu Ile Gln Glu Met Lys Glu Ala Leu Arg Pro Leu Gln
 35 40 45

Ala Glu Ala Arg Gln Leu Arg Leu Gln Asn Arg Asn Leu Glu Asp Gln
 50 55 60

Ile Ala Leu Val Arg Gln Lys Arg Asp Glu Glu Val Gln Gln Tyr Arg
 65 70 75 80

Glu Gln Leu Glu Glu Met Glu Glu Arg Gln Arg Gln Leu Arg Asn Gly
 85 90 95

Val Gln Leu Gln Gln Gln Lys Asn Lys Glu Met Glu Gln Leu Arg Leu
 100 105 110

Ser Leu Ala Glu Glu Leu Ser Thr Tyr Lys Ala Met Leu Leu Pro Lys
 115 120 125

Ser Leu Glu Gln Ala Asp Ala Pro Thr Ser Gln Ala Gly Gly Met Glu
 130 135 140

Thr Gln Ser Gln Gly Ala Val
 145 150

<210> 254

<211> 264

<212> PRT

<213> Shigella Flexneri

<400> 254

Trp Val Ile Pro Asp Pro Glu Glu Glu Pro Glu Arg Lys Arg Lys Lys
 1 5 10 15

Gly Pro Ala Pro Lys Met Leu Gly His Glu Leu Cys Arg Val Cys Gly
 20 25 30

Asp Lys Ala Ser Gly Phe His Tyr Asn Val Leu Ser Cys Glu Gly Cys
 35 40 45

Lys Gly Phe Phe Arg Arg Ser Val Val Arg Gly Gly Ala Arg Arg Tyr
 50 55 60

Ala Cys Arg Gly Gly Gly Thr Cys Gln Met Asp Ala Phe Met Arg Arg
 65 70 75 80

Lys Cys Gln Gln Cys Arg Leu Arg Lys Cys Lys Glu Ala Gly Met Arg
 85 90 95

Glu Gln Cys Val Leu Ser Glu Glu Gln Ile Arg Lys Lys Lys Ile Arg
 100 105 110

Lys Gln Gln Gln Gln Glu Ser Gln Ser Gln Ser Gln Ser Pro Val Gly
 115 120 125

Pro Gln Gly Ser Ser Ser Ser Ala Ser Gly Pro Gly Ala Ser Pro Gly
 130 135 140

Gly Ser Glu Ala Gly Ser Gln Gly Ser Gly Glu Gly Glu Gly Val Gln
 145 150 155 160

Leu Thr Ala Ala Gln Glu Leu Met Ile Gln Gln Leu Val Ala Ala Gln
 165 170 175

Leu Gln Cys Asn Lys Arg Ser Phe Ser Asp Gln Pro Lys Val Thr Pro
 180 185 190

Trp Pro Leu Gly Ala Asp Pro Gln Ser Arg Asp Ala Arg Gln Gln Arg
 195 200 205

Phe Ala His Phe Thr Glu Leu Ala Ile Ile Ser Val Gln Glu Ile Val
 210 215 220

Asp Phe Ala Lys Gln Val Pro Gly Phe Leu Gln Leu Gly Arg Glu Asp
 225 230 235 240

Gln Ile Ala Leu Leu Lys Ala Ser Thr Ile Glu Ile Met Leu Leu Glu
 245 250 255

Thr Ala Arg Arg Tyr Asn His Glu
260

<210> 255

<211> 130

<212> PRT

<213> Shigella Flexneri

<400> 255

Met Lys Asp Glu Pro Arg Ser Thr Asn Leu Phe Met Lys Leu Asp Ser
1 5 10 15

Val Phe Ile Trp Lys Glu Pro Phe Gly Leu Val Leu Ile Ile Ala Pro
20 25 30

Trp Asn Tyr Pro Leu Asn Leu Thr Leu Val Leu Leu Val Gly Thr Leu
35 40 45

Pro Ala Gly Asn Cys Val Val Leu Lys Pro Ser Glu Ile Ser Gln Gly
50 55 60

Thr Glu Lys Val Leu Ala Glu Val Leu Pro Gln Tyr Leu Asp Gln Ser
65 70 75 80

Cys Phe Ala Val Val Leu Gly Gly Pro Gln Glu Thr Gly Gln Leu Leu
85 90 95

Glu His Lys Leu Asp Tyr Ile Phe Phe Thr Gly Ser Pro Arg Val Gly
100 105 110

Lys Ile Val Met Thr Ala Ala Thr Lys His Leu Thr Pro Val Thr Leu
115 120 125

Glu Leu
130

<210> 256

<211> 115

<212> PRT

<213> Shigella Flexneri

<400> 256

Leu Gly Ile Ala Leu Ala Leu Leu Gly Glu Arg Leu Leu Ala Leu Arg
1 5 10 15

Asn Arg Leu Lys Ala Ser Arg Glu Val Glu Ser Val Asp Leu Pro His
20 25 30

Cys His Leu Ile Lys Gly Ile Glu Ala Gly Ser Glu Asp Ile Asp Ile
35 40 45

Leu Pro Asn Gly Leu Ala Phe Phe Ser Val Gly Leu Lys Phe Pro Gly
50 55 60

Leu His Ser Phe Ala Pro Asp Lys Pro Gly Gly Ile Leu Met Met Asp
65 70 75 80

Leu Lys Glu Glu Lys Pro Arg Ala Arg Glu Leu Arg Ile Ser Arg Gly
85 90 95

Phe Asp Leu Ala Ser Phe Asn Pro His Gly Ile Ser Thr Phe Ile Asp
100 105 110

Asn Asp Asp
115

<210> 257

<211> 65

<212> PRT

<213> Shigella Flexneri

<220>

<221> MISC_FEATURE

<222> (1) .. (44)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (61)..(61)

<223> MISC_FEATURE

<400> 257

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1				5						10						15

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
				20						25						30

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Val	Leu	Asn	Leu
				35						40			45		

Cys	Ser	Pro	Asp	Pro	Phe	Thr	Leu	Ile	Lys	Ile	Ile	Xaa	Gly	Leu	Gln
	50					55					60				

Ile
65

<210> 258

<211> 11

<212> PRT

<213> Shigella Flexneri

<400> 258

Tyr	Tyr	Leu	Leu	Asp	Val	Ser	Val	Gly	Ile	Val
1				5					10	

<210> 259

<211> 276

<212> PRT

<213> Shigella Flexneri

<400> 259

Phe Asp Gln Pro Gln Glu Tyr Phe Met Glu Leu Thr Phe Asn Gln Ala
 1 5 10 15

Ala Lys Gly Val Asn Lys Glu Phe Thr Val Asn Ile Met Asp Thr Cys
 20 25 30

Glu Arg Cys Asn Gly Lys Gly Asn Glu Pro Gly Thr Lys Val Gln His
 35 40 45

Cys His Tyr Cys Gly Gly Ser Gly Met Glu Thr Ile Asn Thr Gly Pro
 50 55 60

Phe Val Met Arg Ser Thr Cys Arg Arg Cys Gly Gly Arg Gly Ser Ile
 65 70 75 80

Ile Ile Ser Pro Cys Val Val Cys Arg Gly Ala Gly Gln Ala Lys Gln
 85 90 95

Lys Lys Arg Val Met Ile Pro Val Pro Ala Gly Val Glu Asp Gly Gln
 100 105 110

Thr Val Arg Met Pro Val Gly Lys Arg Glu Ile Phe Ile Thr Phe Arg
 115 120 125

Val Gln Lys Ser Pro Val Phe Arg Arg Asp Gly Ala Asp Ile His Ser
 130 135 140

Asp Leu Phe Ile Ser Ile Ala Gln Ala Leu Leu Gly Gly Thr Ala Arg
 145 150 155 160

Ala Gln Gly Leu Tyr Glu Thr Ile Asn Val Thr Ile Pro Pro Gly Thr
 165 170 175

Gln Thr Asp Gln Lys Ile Arg Met Gly Gly Lys Gly Ile Pro Arg Ile
 180 185 190

Asn Ser Tyr Gly Tyr Gly Asp His Tyr Ile His Ile Lys Ile Arg Val
 195 200 205

Pro Lys Arg Leu Thr Ser Arg Gln Gln Ser Leu Ile Leu Ser Tyr Ala
 210 215 220

Glu Asp Glu Thr Asp Val Glu Gly Thr Val Asn Gly Val Thr Leu Thr
 225 230 235 240

Ser Ser Gly Gly Ser Thr Met Asp Ser Ser Ala Gly Ser Lys Ala Arg
 245 250 255

Arg Glu Ala Gly Glu Asp Glu Glu Gly Phe Leu Ser Lys Leu Lys Lys
 260 265 270

Met Phe Thr Ser
 275

<210> 260

<211> 785

<212> PRT

<213> Shigella Flexneri

<400> 260

Met Ala Asp Leu Asp Ser Pro Pro Lys Leu Ser Gly Val Gln Gln Pro
 1 5 10 15

Ser Glu Gly Val Gly Gly Gly Arg Cys Ser Glu Ile Ser Ala Glu Leu
 20 25 30

Ile Arg Ser Leu Thr Glu Leu Gln Glu Leu Glu Ala Val Tyr Glu Arg
 35 40 45

Leu Cys Gly Glu Glu Lys Val Val Glu Arg Glu Leu Asp Ala Leu Leu
 50 55 60

Glu Gln Gln Asn Thr Ile Glu Ser Lys Met Val Thr Leu His Arg Met
 65 70 75 80

Gly Pro Asn Leu Gln Leu Ile Glu Gly Asp Ala Lys Gln Leu Ala Gly
 85 90 95

Met Ile Thr Phe Thr Cys Asn Leu Ala Glu Asn Val Ser Ser Lys Val

100

105

110

Arg Gln Leu Asp Leu Ala Lys Asn Arg Leu Tyr Gln Ala Ile Gln Arg
 115 120 125

Ala Asp Asp Ile Leu Asp Leu Lys Phe Cys Met Asp Gly Val Gln Thr
 130 135 140

Ala Leu Arg Ser Glu Asp Tyr Glu Gln Ala Ala Ala His Ile His Arg
 145 150 155 160

Tyr Leu Cys Leu Asp Lys Ser Val Ile Glu Leu Ser Arg Gln Gly Lys
 165 170 175

Gly Gly Ser Met Ile Asp Ala Asn Leu Lys Leu Leu Gln Glu Ala Glu
 180 185 190

Gln Arg Leu Lys Ala Ile Val Ala Glu Lys Phe Ala Ile Ala Thr Lys
 195 200 205

Glu Gly Asp Leu Pro Gln Val Glu Arg Phe Phe Lys Ile Phe Pro Leu
 210 215 220

Leu Gly Leu His Glu Glu Gly Leu Arg Arg Phe Ser Glu Tyr Leu Cys
 225 230 235 240

Lys Gln Val Ala Ser Lys Ala Glu Glu Asn Leu Leu Met Val Leu Gly
 245 250 255

Thr Asp Met Ser Asp Arg Arg Ala Ala Val Ile Phe Ala Asp Thr Leu
 260 265 270

Thr Leu Leu Phe Glu Gly Ile Ala Arg Ile Val Glu Ala His Gln Pro
 275 280 285

Ile Val Glu Thr Tyr Tyr Gly Pro Gly Arg Leu Tyr Thr Leu Ile Lys
 290 295 300

Tyr Leu Gln Val Glu Cys Asp Arg Gln Val Glu Lys Val Val Asp Lys
 305 310 315 320

Phe Ile Lys Gln Arg Asp Tyr His Gln Gln Phe Arg His Val Gln Asn
 325 330 335

Asn Leu Met Arg Asn Ser Thr Thr Glu Lys Ile Glu Pro Arg Glu Leu
 340 345 350

Asp Pro Ile Leu Thr Glu Val Thr Leu Met Asn Ala Arg Ser Glu Leu
 355 360 365

Tyr Leu Arg Phe Leu Lys Lys Arg Ile Ser Ser Asp Phe Glu Val Gly
 370 375 380

Asp Ser Met Ala Ser Glu Glu Val Lys Gln Glu His Gln Lys Cys Leu
 385 390 395 400

Asp Lys Leu Leu Asn Asn Cys Leu Leu Ser Cys Thr Met Gln Glu Leu
 405 410 415

Ile Gly Leu Tyr Val Thr Met Glu Glu Tyr Phe Met Arg Glu Thr Val
 420 425 430

Asn Lys Ala Val Ala Leu Asp Thr Tyr Glu Lys Gly Gln Leu Thr Ser
 435 440 445

Ser Met Val Asp Asp Val Phe Tyr Ile Val Lys Lys Cys Ile Gly Arg
 450 455 460

Ala Leu Ser Ser Ser Ser Ile Asp Cys Leu Cys Ala Met Ile Asn Leu
 465 470 475 480

Ala Thr Thr Glu Leu Glu Ser Asp Phe Arg Asp Val Leu Cys Asn Lys
 485 490 495

Leu Arg Met Gly Phe Pro Ala Thr Thr Phe Gln Asp Ile Gln Arg Gly
 500 505 510

Val Thr Ser Ala Val Asn Ile Met His Ser Ser Leu Gln Gln Gly Lys
 515 520 525

Phe Asp Thr Lys Gly Ile Glu Ser Thr Asp Glu Ala Lys Met Ser Phe
 530 535 540

Leu Val Thr Leu Asn Asn Val Glu Val Cys Ser Glu Asn Ile Ser Thr
 545 550 555 560

Leu Lys Lys Thr Leu Glu Ser Asp Cys Thr Lys Leu Phe Ser Gln Gly
565 570 575

Ile Gly Gly Glu Gln Ala Gln Ala Lys Phe Asp Gly Cys Leu Ser Asp
580 585 590

Leu Ala Ala Val Ser Asn Lys Phe Arg Asp Leu Leu Gln Glu Gly Leu
595 600 605

Thr Glu Leu Asn Ser Thr Ala Ile Lys Pro Gln Val Gln Pro Trp Ile
610 615 620

Asn Ser Phe Phe Ser Val Ser His Asn Ile Glu Glu Glu Glu Phe Asn
625 630 635 640

Asp Tyr Glu Ala Asn Asp Pro Trp Val Gln Gln Phe Ile Leu Asn Leu
645 650 655

Glu Gln Gln Met Ala Glu Phe Lys Ala Ser Leu Ser Pro Val Ile Tyr
660 665 670

Asp Ser Leu Thr Gly Leu Met Thr Ser Leu Val Ala Val Glu Leu Glu
675 680 685

Lys Val Val Leu Lys Ser Thr Phe Asn Arg Leu Gly Gly Leu Gln Phe
690 695 700

Asp Lys Glu Leu Arg Ser Leu Ile Ala Tyr Leu Thr Thr Val Thr Thr
705 710 715 720

Trp Thr Ile Arg Asp Lys Phe Ala Arg Leu Ser Gln Met Ala Thr Ile
725 730 735

Leu Asn Leu Glu Arg Val Thr Glu Ile Leu Asp Tyr Trp Gly Pro Asn
740 745 750

Ser Gly Pro Leu Thr Trp Arg Leu Thr Pro Ala Glu Val Arg Gln Val
755 760 765

Leu Ala Leu Arg Ile Asp Phe Arg Ser Glu Asp Ile Lys Arg Leu Arg
770 775 780

Leu
785

<210> 261

<211> 16

<212> PRT

<213> Shigella Flexneri

<400> 261

Pro	Cys	Leu	Gly	Trp	Leu	Ile	Tyr	Gln	Gly	Cys	Leu	Ser	Leu	Cys	Leu
1				5					10					15	

<210> 262

<211> 21

<212> PRT

<213> Shigella Flexneri

<220>

<221> MISC_FEATURE

<222> (1) .. (1)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (3) .. (4)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (6) .. (6)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (8) .. (10)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (14) .. (14)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (19) .. (19)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (19) .. (21)

<223> 21

<400> 262

Xaa	Gly	Xaa	Xaa	Arg	Xaa	Ser	Xaa	Xaa	Xaa	Pro	Leu	His	Xaa	Val	Leu
1				5					10					15	

Leu	Arg	Xaa	Asp	Xaa
			20	

<210> 263

<211> 722

<212> PRT

<213> Shigella Flexneri

<400> 263

Gln Glu Leu Gln Lys Lys Ala Glu His Gln Val Gly Glu Asp Gly Phe
1 5 10 15

Leu Leu Lys Ile Lys Leu Gly His Tyr Ala Thr Gln Leu Gln Asn Thr
20 25 30

Tyr Asp Arg Cys Pro Met Glu Leu Val Arg Cys Ile Arg His Ile Leu
35 40 45

Tyr Asn Glu Gln Arg Leu Val Arg Glu Ala Asn Asn Gly Ser Ser Pro
50 55 60

Ala Gly Ser Leu Ala Asp Ala Met Ser Gln Lys His Leu Gln Ile Asn
65 70 75 80

Gln Thr Phe Glu Glu Leu Arg Leu Val Thr Gln Asp Thr Glu Asn Glu
85 90 95

Leu Lys Lys Leu Gln Gln Thr Gln Glu Tyr Phe Ile Ile Gln Tyr Gln
100 105 110

Glu Ser Leu Arg Ile Gln Ala Gln Phe Gly Pro Leu Ala Gln Leu Ser
115 120 125

Pro Gln Glu Arg Leu Ser Arg Glu Thr Ala Leu Gln Gln Lys Gln Val
130 135 140

Ser Leu Glu Ala Trp Leu Gln Arg Glu Ala Gln Thr Leu Gln Gln Tyr
145 150 155 160

Arg Val Glu Leu Pro Glu Lys His Gln Lys Thr Leu Gln Leu Leu Arg
165 170 175

Lys Gln Gln Thr Ile Ile Leu Asp Asp Glu Leu Ile Gln Trp Lys Arg
180 185 190

Arg Gln Gln Leu Ala Gly Asn Gly Gly Pro Pro Glu Gly Ser Leu Asp

195

200

205

Val Leu Gln Ser Trp Cys Glu Lys Leu Ala Glu Ile Ile Trp Gln Asn
 210 215 220

Arg Gln Gln Ile Arg Arg Ala Glu His Leu Cys Gln Gln Leu Pro Ile
 225 230 235 240

Pro Gly Pro Val Glu Glu Met Leu Ala Glu Val Asn Ala Thr Ile Thr
 245 250 255

Asp Ile Ile Ser Ala Leu Val Thr Ser Thr Phe Ile Ile Glu Lys Gln
 260 265 270

Pro Pro Gln Val Leu Lys Thr Gln Thr Lys Phe Ala Ala Thr Val Arg
 275 280 285

Leu Leu Val Gly Gly Lys Leu Asn Val His Met Asn Pro Pro Gln Val
 290 295 300

Lys Ala Thr Ile Ile Ser Glu Gln Gln Ala Lys Ser Leu Leu Lys Asn
 305 310 315 320

Glu Asn Thr Arg Asn Asp Tyr Ser Gly Glu Ile Leu Asn Asn Cys Cys
 325 330 335

Val Met Glu Tyr His Gln Ala Thr Gly Thr Leu Ser Ala His Phe Arg
 340 345 350

Asn Met Ser Leu Lys Arg Ile Lys Arg Ser Asp Arg Arg Gly Ala Glu
 355 360 365

Ser Val Thr Glu Glu Lys Phe Thr Ile Leu Phe Glu Ser Gln Phe Ser
 370 375 380

Val Gly Gly Asn Glu Leu Val Phe Gln Val Lys Thr Leu Ser Leu Pro
 385 390 395 400

Val Val Val Ile Val His Gly Ser Gln Asp Asn Asn Ala Thr Ala Thr
 405 410 415

Val Leu Trp Asp Asn Ala Phe Ala Glu Pro Gly Arg Val Pro Phe Ala
 420 425 430

Val Pro Asp Lys Val Leu Trp Pro Gln Leu Cys Glu Ala Leu Asn Met
 435 440 445

Lys Phe Lys Ala Glu Val Gln Ser Asn Arg Gly Leu Thr Lys Glu Asn
 450 455 460

Leu Val Phe Leu Ala Gln Lys Leu Phe Asn Asn Ser Ser Ser His Leu
 465 470 475 480

Glu Asp Tyr Ser Gly Leu Ser Val Ser Trp Ser Gln Phe Asn Arg Glu
 485 490 495

Asn Leu Pro Gly Arg Asn Tyr Thr Phe Trp Gln Trp Phe Asp Gly Val
 500 505 510

Met Glu Val Leu Lys Lys His Leu Lys Pro His Trp Asn Asp Gly Ala
 515 520 525

Ile Leu Gly Phe Val Asn Lys Gln Gln Ala His Asp Leu Leu Ile Asn
 530 535 540

Lys Pro Asp Gly Thr Phe Leu Leu Arg Phe Ser Asp Ser Glu Ile Gly
 545 550 555 560

Gly Ile Thr Ile Ala Trp Lys Phe Asp Ser Gln Glu Arg Met Phe Trp
 565 570 575

Asn Leu Met Pro Phe Thr Thr Arg Asp Phe Ser Ile Arg Ser Leu Ala
 580 585 590

Asp Arg Leu Gly Asp Leu Asn Tyr Leu Ile Tyr Val Phe Pro Asp Arg
 595 600 605

Pro Lys Asp Glu Val Tyr Ser Lys Tyr Tyr Thr Pro Val Pro Cys Glu
 610 615 620

Ser Ala Thr Ala Lys Ala Val Asp Gly Tyr Val Lys Pro Gln Ile Lys
 625 630 635 640

Gln Val Val Pro Glu Phe Val Asn Ala Ser Ala Asp Ala Gly Gly Gly
 645 650 655

Ser Ala Thr Tyr Met Asp Gln Ala Pro Ser Pro Ala Val Cys Pro Gln
660 665 670

Ala His Tyr Asn Met Tyr Pro Gln Asn Pro Asp Ser Val Leu Asp Thr
675 680 685

Asp Gly Asp Phe Asp Leu Glu Asp Thr Met Asp Val Ala Arg Arg Val
690 695 700

Glu Glu Leu Leu Gly Arg Pro Met Asp Ser Gln Trp Ile Pro His Ala
705 710 715 720

Gln Ser

<210> 264

<211> 500

<212> PRT

<213> Shigella Flexneri

<400> 264

Met Gly Ile Gly Leu Ser Ala Gln Gly Val Asn Met Asn Arg Leu Pro
1 5 10 15

Gly Trp Asp Lys His Ser Tyr Gly Tyr His Gly Asp Asp Gly His Ser
20 25 30

Phe Cys Ser Ser Gly Thr Gly Gln Pro Tyr Gly Pro Thr Phe Thr Thr
35 40 45

Gly Asp Val Ile Gly Cys Cys Val Asn Leu Ile Asn Asn Thr Cys Phe
50 55 60

Tyr Thr Lys Asn Gly His Ser Leu Gly Ile Ala Phe Thr Asp Leu Pro
65 70 75 80

Pro Asn Leu Tyr Pro Thr Val Gly Leu Gln Thr Pro Gly Glu Val Val
85 90 95

Asp Ala Asn Phe Gly Gln His Pro Phe Val Phe Asp Ile Glu Asp Tyr
 100 105 110

Met Arg Glu Trp Arg Thr Lys Ile Gln Ala Gln Ile Asp Arg Phe Pro
 115 120 125

Ile Gly Asp Arg Glu Gly Glu Trp Gln Thr Met Ile Gln Lys Met Val
 130 135 140

Ser Ser Tyr Leu Val His His Gly Tyr Cys Ala Thr Ala Glu Ala Phe
 145 150 155 160

Ala Arg Ser Thr Asp Gln Thr Val Leu Glu Glu Leu Ala Ser Ile Lys
 165 170 175

Asn Arg Gln Arg Ile Gln Lys Leu Val Leu Ala Gly Arg Met Gly Glu
 180 185 190

Ala Ile Glu Thr Thr Gln Gln Leu Tyr Pro Ser Leu Leu Glu Arg Asn
 195 200 205

Pro Asn Leu Leu Phe Thr Leu Lys Val Arg Gln Phe Ile Glu Met Val
 210 215 220

Asn Gly Thr Asp Ser Glu Val Arg Cys Leu Gly Gly Arg Ser Pro Lys
 225 230 235 240

Ser Gln Asp Ser Tyr Pro Val Ser Pro Arg Pro Phe Ser Ser Pro Ser
 245 250 255

Met Ser Pro Ser His Gly Met Asn Ile His Asn Leu Ala Ser Gly Lys
 260 265 270

Gly Ser Thr Ala His Phe Ser Gly Phe Glu Ser Cys Ser Asn Gly Val
 275 280 285

Ile Ser Asn Lys Ala His Gln Ser Tyr Cys His Ser Asn Lys His Gln
 290 295 300

Ser Ser Asn Leu Asn Val Pro Glu Leu Asn Ser Ile Asn Met Ser Arg
 305 310 315 320

Ser Gln Gln Val Asn Asn Phe Thr Ser Asn Asp Val Asp Met Glu Thr

325

330

335

Asp His Tyr Ser Asn Gly Val Gly Glu Thr Ser Ser Asn Gly Phe Leu
 340 345 350

Asn Gly Ser Ser Lys His Asp His Glu Met Glu Asp Cys Asp Thr Glu
 355 360 365

Met Glu Val Asp Ser Ser Gln Leu Arg Arg Gln Leu Cys Gly Gly Ser
 370 375 380

Gln Ala Ala Ile Glu Arg Met Ile His Phe Gly Arg Glu Leu Gln Ala
 385 390 395 400

Met Ser Glu Gln Leu Arg Arg Asp Cys Gly Lys Asn Thr Ala Asn Lys
 405 410 415

Lys Met Leu Lys Asp Ala Phe Ser Leu Leu Ala Tyr Ser Asp Pro Trp
 420 425 430

Asn Ser Pro Val Gly Asn Gln Leu Asp Pro Ile Gln Arg Glu Pro Val
 435 440 445

Cys Ser Ala Leu Asn Ser Ala Ile Leu Glu Thr His Asn Leu Pro Lys
 450 455 460

Gln Pro Pro Leu Ala Leu Ala Met Gly Gln Ala Thr Gln Cys Leu Gly
 465 470 475 480

Leu Met Ala Arg Ser Gly Ile Gly Ser Cys Ala Phe Ala Thr Val Glu
 485 490 495

Asp Tyr Leu His
 500

<210> 265

<211> 430

<212> PRT

<213> Shigella Flexneri

<400> 265

Ile Glu Ile His Gly Lys Ala Gly Leu Phe Leu Glu Gly Gln Ile His
1 5 10 15

Pro Glu Leu Glu Gly Val Glu Ile Val Ile Ser Glu Lys Gly Ala Ser
20 25 30

Ser Pro Leu Ile Thr Val Phe Thr Asp Asp Lys Gly Ala Tyr Ser Val
35 40 45

Gly Pro Leu His Ser Asp Leu Glu Tyr Thr Val Thr Ser Gln Lys Glu
50 55 60

Gly Tyr Val Leu Thr Ala Val Glu Gly Thr Ile Gly Asp Phe Lys Ala
65 70 75 80

Tyr Ala Leu Ala Gly Val Ser Phe Glu Ile Lys Ala Glu Asp Asp Gln
85 90 95

Pro Leu Pro Gly Val Leu Leu Ser Leu Ser Gly Gly Leu Phe Arg Ser
100 105 110

Asn Leu Leu Thr Gln Asp Asn Gly Ile Leu Thr Phe Ser Asn Leu Ser
115 120 125

Pro Gly Gln Tyr Tyr Phe Lys Pro Met Met Lys Glu Phe Arg Phe Glu
130 135 140

Pro Ser Ser Gln Met Ile Glu Val Gln Glu Gly Gln Asn Leu Lys Ile
145 150 155 160

Thr Ile Thr Gly Tyr Arg Thr Ala Tyr Ser Cys Tyr Gly Thr Val Ser
165 170 175

Ser Leu Asn Gly Glu Pro Glu Gln Gly Val Ala Met Glu Ala Val Gly
180 185 190

Gln Asn Asp Cys Ser Ile Tyr Gly Glu Asp Thr Val Thr Asp Glu Glu
195 200 205

Gly Lys Phe Arg Leu Arg Gly Leu Leu Pro Gly Cys Val Tyr His Val
210 215 220

Gln Leu Lys Ala Glu Gly Asn Asp His Ile Glu Arg Ala Leu Pro His
 225 230 235 240

His Arg Val Ile Glu Val Gly Asn Asn Asp Ile Asp Asp Val Asn Ile
 245 250 255

Ile Val Phe Arg Gln Ile Asn Gln Phe Asp Leu Ser Gly Asn Val Ile
 260 265 270

Thr Ser Ser Glu Tyr Leu Pro Thr Leu Trp Val Lys Leu Tyr Lys Ser
 275 280 285

Glu Asn Leu Asp Asn Pro Ile Gln Thr Val Ser Leu Gly Gln Ser Leu
 290 295 300

Phe Phe His Phe Pro Pro Leu Leu Arg Asp Gly Glu Asn Tyr Val Val
 305 310 315 320

Leu Leu Asp Ser Thr Leu Pro Arg Ser Gln Tyr Asp Tyr Ile Leu Pro
 325 330 335

Gln Val Ser Phe Thr Ala Val Gly Tyr His Lys His Thr Thr Leu Ile
 340 345 350

Phe Asn Pro Thr Arg Lys Leu Pro Glu Gln Asp Ile Ala Gln Gly Ser
 355 360 365

Tyr Ile Ala Leu Pro Leu Thr Leu Leu Val Leu Leu Ala Gly Tyr Asn
 370 375 380

His Asp Lys Leu Ile Pro Leu Leu Leu Gln Leu Thr Ser Arg Leu Gln
 385 390 395 400

Gly Val Arg Ala Leu Gly Gln Ala Ala Ser Asp Asn Ser Gly Pro Glu
 405 410 415

Asp Ala Lys Arg Gln Ala Lys Lys Gln Lys Thr Arg Arg Thr
 420 425 430

<210> 266

<211> 1138

<212> PRT

<213> Shigella Flexneri

<400> 266

Leu Gly Leu His Ser Pro Ile Ala Leu Asp Val Leu Ser Glu Ala Phe
1 5 10 15

Glu Glu Ser Leu Val Ala Arg Asp Trp Ser Arg Ala Leu Gln Leu Thr
20 25 30

Glu Val Tyr Gly Arg Asp Val Asp Asp Leu Ser Ser Ile Lys Asp Ala
35 40 45

Val Leu Ser Cys Ala Val Ala Tyr Asp Lys Glu Gly Trp Gln Tyr Leu
50 55 60

Phe Pro Val Lys Asp Ala Ser Leu Arg Ser Arg Leu Ala Leu Gln Phe
65 70 75 80

Val Asp Arg Trp Pro Leu Glu Ser Cys Leu Glu Ile Leu Ala Tyr Cys
85 90 95

Ile Ser Asp Thr Ala Val Gln Glu Gly Leu Lys Cys Glu Leu Gln Arg
100 105 110

Lys Leu Ala Glu Leu Gln Val Tyr Gln Lys Ile Leu Gly Leu Gln Ser
115 120 125

Pro Pro Val Trp Cys Asp Trp Gln Thr Leu Arg Ser Cys Cys Val Glu
130 135 140

Asp Pro Ser Thr Val Met Asn Met Ile Leu Glu Ala Gln Glu Tyr Glu
145 150 155 160

Leu Cys Glu Glu Trp Gly Cys Leu Tyr Pro Ile Pro Arg Glu His Leu
165 170 175

Ile Ser Leu His Gln Lys His Leu Leu His Leu Leu Glu Arg Arg Asp
180 185 190

His Asp Lys Ala Leu Gln Leu Leu Arg Arg Ile Pro Asp Pro Thr Met

195

200

205

Cys Leu Glu Val Thr Glu Gln Ser Leu Asp Gln His Thr Ser Leu Ala
 210 215 220

Thr Ser His Phe Leu Ala Asn Tyr Leu Thr Thr His Phe Tyr Gly Gln
 225 230 235 240

Leu Thr Ala Val Arg His Arg Glu Ile Gln Ala Leu Tyr Val Gly Ser
 245 250 255

Lys Ile Leu Leu Thr Leu Pro Glu Gln His Arg Ala Ser Tyr Ser His
 260 265 270

Leu Ser Ser Asn Pro Leu Phe Met Leu Glu Gln Leu Leu Met Asn Met
 275 280 285

Lys Val Asp Trp Ala Thr Val Ala Val Gln Thr Leu Gln Gln Leu Leu
 290 295 300

Val Gly Gln Glu Ile Gly Phe Thr Met Asp Glu Val Asp Ser Leu Leu
 305 310 315 320

Ser Arg Tyr Ala Glu Lys Ala Leu Asp Phe Pro Tyr Pro Gln Arg Glu
 325 330 335

Lys Arg Ser Asp Ser Val Ile His Leu Gln Glu Ile Val His Gln Ala
 340 345 350

Ala Asp Pro Glu Thr Leu Pro Arg Ser Pro Ser Ala Glu Phe Ser Pro
 355 360 365

Ala Ala Pro Pro Gly Ile Ser Ser Ile His Ser Pro Ser Leu Arg Glu
 370 375 380

Arg Ser Phe Pro Pro Thr Gln Pro Ser Gln Glu Phe Val Pro Pro Ala
 385 390 395 400

Thr Pro Pro Ala Arg His Gln Trp Val Pro Asp Glu Thr Glu Ser Ile
 405 410 415

Cys Met Val Cys Cys Arg Glu His Phe Thr Met Phe Asn Arg Arg His
 420 425 430

His Cys Arg Arg Cys Gly Arg Leu Val Cys Ser Ser Cys Ser Thr Lys
 435 440 445

Lys Met Val Val Glu Gly Cys Arg Glu Asn Pro Ala Arg Val Cys Asp
 450 455 460

Gln Cys Tyr Ser Tyr Cys Asn Lys Asp Val Pro Glu Glu Pro Ser Glu
 465 470 475 480

Lys Pro Glu Ala Leu Asp Ser Ser Lys Ser Glu Ser Pro Pro Tyr Ser
 485 490 495

Phe Val Val Arg Val Pro Lys Ala Asp Glu Val Glu Trp Ile Leu Asp
 500 505 510

Leu Lys Glu Glu Glu Asn Glu Leu Val Arg Ser Glu Phe Tyr Tyr Glu
 515 520 525

Gln Ala Pro Ser Ala Ser Leu Cys Ile Ala Ile Leu Asn Leu His Arg
 530 535 540

Asp Ser Ile Ala Cys Gly His Gln Leu Ile Glu His Cys Cys Arg Leu
 545 550 555 560

Ser Lys Gly Leu Thr Asn Pro Glu Val Asp Ala Gly Leu Leu Thr Asp
 565 570 575

Ile Met Lys Gln Leu Leu Phe Ser Ala Lys Met Met Phe Val Lys Ala
 580 585 590

Gly Gln Ser Gln Asp Leu Ala Leu Cys Asp Ser Tyr Ile Ser Lys Val
 595 600 605

Asp Val Leu Asn Ile Leu Val Ala Ala Ala Tyr Arg His Val Pro Ser
 610 615 620

Leu Asp Gln Ile Leu Gln Pro Ala Ala Val Thr Arg Leu Arg Asn Gln
 625 630 635 640

Leu Leu Glu Ala Glu Tyr Tyr Gln Leu Gly Val Glu Val Ser Thr Lys
 645 650 655

Thr Gly Leu Asp Thr Thr Gly Ala Trp His Ala Trp Gly Met Ala Cys
660 665 670

Leu Lys Ala Gly Asn Leu Thr Ala Ala Arg Glu Lys Phe Ser Arg Cys
675 680 685

Leu Lys Pro Pro Phe Asp Leu Asn Gln Leu Asn His Gly Ser Arg Leu
690 695 700

Val Gln Asp Val Val Glu Tyr Leu Glu Ser Thr Val Arg Pro Phe Val
705 710 715 720

Ser Leu Gln Asp Asp Asp Tyr Phe Ala Thr Leu Arg Glu Leu Glu Ala
725 730 735

Thr Leu Arg Thr Gln Ser Leu Ser Leu Ala Val Ile Pro Glu Gly Lys
740 745 750

Ile Met Asn Asn Thr Tyr Tyr Gln Glu Cys Leu Phe Tyr Leu His Asn
755 760 765

Tyr Ser Thr Asn Leu Ala Ile Ile Ser Phe Tyr Val Arg His Ser Cys
770 775 780

Leu Arg Glu Ala Leu Leu His Leu Leu Asn Lys Glu Ser Pro Pro Glu
785 790 795 800

Val Phe Ile Glu Gly Ile Phe Gln Pro Ser Tyr Lys Ser Gly Lys Leu
805 810 815

His Thr Leu Glu Asn Leu Leu Glu Ser Ile Asp Pro Thr Leu Glu Ser
820 825 830

Trp Gly Lys Tyr Leu Ile Ala Ala Cys Gln His Leu Gln Lys Lys Asn
835 840 845

Tyr Tyr His Ile Leu Tyr Glu Leu Gln Gln Phe Met Lys Asp Gln Val
850 855 860

Arg Ala Ala Met Thr Cys Ile Arg Phe Phe Ser His Lys Ala Lys Ser
865 870 875 880

Tyr Thr Glu Leu Gly Glu Lys Leu Ser Trp Leu Leu Lys Ala Lys Asp
885 890 895

His Leu Lys Ile Tyr Leu Gln Glu Thr Ser Arg Ser Ser Gly Arg Lys
900 905 910

Lys Thr Thr Phe Phe Arg Lys Lys Met Thr Ala Ala Asp Val Ser Arg
915 920 925

His Met Asn Thr Leu Gln Leu Gln Met Glu Val Thr Arg Phe Leu His
930 935 940

Arg Cys Glu Ser Ala Gly Thr Ser Gln Ile Thr Thr Leu Pro Leu Pro
945 950 955 960

Thr Leu Phe Gly Asn Asn His Met Lys Met Asp Val Ala Cys Lys Val
965 970 975

Met Leu Gly Gly Lys Asn Val Glu Asp Gly Phe Gly Ile Ala Phe Arg
980 985 990

Val Leu Gln Asp Phe Gln Leu Asp Ala Ala Met Thr Tyr Cys Arg Ala
995 1000 1005

Ala Arg Gln Leu Val Glu Lys Glu Lys Tyr Ser Glu Ile Gln Gln
1010 1015 1020

Leu Leu Lys Cys Val Ser Glu Ser Gly Met Ala Ala Lys Ser Asp
1025 1030 1035

Gly Asp Thr Ile Leu Leu Asn Cys Leu Glu Ala Phe Lys Arg Ile
1040 1045 1050

Pro Pro Gln Glu Leu Glu Gly Leu Ile Gln Ala Ile His Asn Asp
1055 1060 1065

Asp Asn Lys Val Arg Ala Tyr Leu Ile Cys Cys Lys Leu Arg Ser
1070 1075 1080

Ala Tyr Leu Ile Ala Val Lys Gln Glu His Ser Arg Ala Thr Ala
1085 1090 1095

Leu Val Gln Gln Val Gln Gln Ala Ala Lys Ser Ser Gly Asp Ala

1100

1105

1110

Val Val Gln Asp Ile Cys Ala Gln Trp Leu Leu Thr Ser His Pro
 1115 1120 1125

Arg Gly Ala His Gly Pro Gly Ser Arg Lys
 1130 1135

<210> 267

<211> 9

<212> PRT

<213> Shigella Flexneri

<400> 267

Leu Pro Leu Cys Leu Ala Gly Phe Leu
 1 5

<210> 268

<211> 12

<212> PRT

<213> Shigella Flexneri

<400> 268

Asn Phe His Leu Pro Arg Glu Val Tyr Val Phe Phe
 1 5 10

<210> 269

<211> 705

<212> PRT

<213> Shigella Flexneri

<400> 269

Asn Pro Val Pro Leu Tyr Ala Pro Asn Leu Ser Pro Pro Ala Asp Ser
 1 5 10 15

Arg Ile His Val Pro Ala Ser Gly Tyr Cys Cys Leu Glu Cys Gly Asp
20 25 30

Ala Phe Ala Leu Glu Lys Ser Leu Ser Gln His Tyr Gly Arg Arg Ser
35 40 45

Val His Ile Glu Val Leu Cys Thr Leu Cys Ser Lys Thr Leu Leu Phe
50 55 60

Phe Asn Lys Cys Ser Leu Leu Arg His Ala Arg Asp His Lys Ser Lys
65 70 75 80

Gly Leu Val Met Gln Cys Ser Gln Leu Leu Val Lys Pro Ile Ser Ala
85 90 95

Asp Gln Met Phe Val Ser Ala Pro Val Asn Ser Thr Ala Pro Ala Ala
100 105 110

Pro Ala Pro Ser Ser Ser Pro Lys His Gly Leu Thr Ser Gly Ser Ala
115 120 125

Ser Pro Pro Pro Pro Ala Leu Pro Leu Tyr Pro Asp Pro Val Arg Leu
130 135 140

Ile Arg Tyr Ser Ile Lys Cys Leu Glu Cys His Lys Gln Met Arg Asp
145 150 155 160

Tyr Met Val Leu Ala Ala His Phe Gln Arg Thr Thr Glu Glu Thr Glu
165 170 175

Gly Leu Thr Cys Gln Val Cys Gln Met Leu Leu Pro Asn Gln Cys Ser
180 185 190

Phe Cys Ala His Gln Arg Ile His Ala His Lys Ser Pro Tyr Cys Cys
195 200 205

Pro Glu Cys Gly Val Leu Cys Arg Ser Ala Tyr Phe Gln Thr His Val
210 215 220

Lys Glu Asn Cys Leu His Tyr Ala Arg Lys Val Gly Tyr Arg Cys Ile
225 230 235 240

10043487 .043002

His Cys Gly Val Val His Leu Thr Leu Ala Leu Leu Lys Ser His Ile
 245 250 255

Gln Glu Arg His Cys Gln Val Phe His Lys Cys Ala Phe Cys Pro Met
 260 265 270

Ala Phe Lys Thr Ala Ser Ser Thr Ala Asp His Ser Ala Thr Gln His
 275 280 285

Pro Thr Gln Pro His Arg Pro Ser Gln Leu Ile Tyr Lys Cys Ser Cys
 290 295 300

Glu Met Val Phe Asn Lys Lys Arg His Ile Gln Gln His Phe Tyr Gln
 305 310 315 320

Asn Val Ser Lys Thr Gln Val Gly Val Phe Lys Cys Pro Glu Cys Pro
 325 330 335

Leu Leu Phe Val Gln Lys Pro Glu Leu Met Gln His Val Lys Ser Thr
 340 345 350

His Gly Val Pro Arg Asn Val Asp Glu Leu Ser Asn Leu Gln Ser Ser
 355 360 365

Ala Asp Thr Ser Ser Ser Arg Pro Gly Ser Arg Val Pro Thr Glu Pro
 370 375 380

Pro Ala Thr Ser Val Ala Ala Arg Ser Ser Ser Leu Pro Ser Gly Arg
 385 390 395 400

Trp Gly Arg Pro Glu Ala His Arg Arg Val Glu Ala Arg Pro Arg Leu
 405 410 415

Arg Asn Thr Gly Trp Thr Cys Gln Glu Cys Gln Glu Trp Val Pro Asp
 420 425 430

Arg Glu Ser Tyr Val Ser His Met Lys Lys Ser His Gly Arg Thr Leu
 435 440 445

Lys Arg Tyr Pro Cys Arg Gln Cys Glu Gln Ser Phe His Thr Pro Asn
 450 455 460

Ser Leu Arg Lys His Ile Arg Asn Asn His Asp Thr Val Lys Lys Phe
465 470 475 480

Tyr Thr Cys Gly Tyr Cys Thr Glu Asp Ser Pro Ser Phe Pro Arg Pro
485 490 495

Ser Leu Leu Glu Ser His Ile Ser Leu Met His Gly Ile Arg Asn Pro
500 505 510

Asp Leu Ser Gln Thr Ser Lys Val Lys Pro Pro Gly Gly His Ser Pro
515 520 525

Gln Val Asn His Leu Lys Arg Pro Val Ser Gly Val Gly Asp Ala Pro
530 535 540

Gly Thr Ser Asn Gly Ala Thr Val Ser Ser Thr Lys Arg His Lys Ser
545 550 555 560

Leu Phe Gln Cys Ala Lys Cys Ser Phe Ala Thr Asp Ser Gly Leu Glu
565 570 575

Phe Gln Ser His Ile Pro Gln His Gln Val Asp Ser Ser Thr Ala Gln
580 585 590

Cys Leu Leu Cys Gly Leu Cys Tyr Thr Ser Ala Ser Ser Leu Ser Arg
595 600 605

His Leu Phe Ile Val His Lys Val Arg Asp Gln Glu Glu Glu Glu
610 615 620

Glu Glu Ala Ala Ala Ala Glu Met Ala Val Glu Val Ala Glu Pro Glu
625 630 635 640

Glu Gly Ser Gly Glu Glu Val Pro Met Glu Thr Arg Glu Asn Gly Leu
645 650 655

Glu Glu Cys Ala Gly Glu Pro Leu Ser Ala Asp Pro Glu Ala Arg Arg
660 665 670

Leu Leu Gly Pro Ala Pro Glu Asp Asp Gly Gly His Asn Asp His Ser
675 680 685

Gln Pro Gln Ala Ser Gln Asp Gln Asp Ser His Thr Leu Ser Pro Gln

690

695

700

Val
705

<210> 270

<211> 11

<212> PRT

<213> Shigella Flexneri

<400> 270

Glu	His	Ser	Ser	Ser	Leu	Val	Met	Leu	Phe	Phe
1				5					10	

<210> 271

<211> 24

<212> PRT

<213> Shigella Flexneri

<400> 271

Val	His	Gln	Val	Thr	Asp	Leu	Ser	Arg	Asn	Ala	Gln	Leu	Phe	Lys	Arg
1				5					10					15	

Ser	Leu	Leu	Glu	Met	Ala	Thr	Phe
			20				

<210> 272

<211> 7

<212> PRT

<213> Shigella Flexneri

<400> 272

Gly	Gly	Val	Gly	Met	Gly	Arg
1				5		

<210> 273

<211> 7

<212> PRT

<213> Shigella Flexneri

<220>

<221> MISC_FEATURE

<222> (4) .. (6)

<223> MISC_FEATURE

<400> 273

Phe Glu Gly Xaa Xaa Xaa Thr
1 5

<210> 274

<211> 20

<212> PRT

<213> Shigella Flexneri

<220>

<221> MISC_FEATURE

<222> (19) .. (19)

<223> MISC_FEATURE

<400> 274

Ala Gln Ala Val Ile Pro Tyr Gln Ala Val Lys Ile Tyr Ser Leu Val
1 5 10 15

Phe Phe Xaa Lys
20

<210> 275
 <211> 35
 <212> PRT
 <213> Shigella Flexneri

<400> 275
 Arg Val Gly Met Gly Trp Ala Ser Val Arg Pro Ser Asp Pro Pro His
 1 5 10 15
 Val Cys Cys Pro Lys Pro Arg Arg Ser Leu Val Trp Tyr Ser Val Ser
 20 25 30

Gly Leu Gly
 35

<210> 276
 <211> 49
 <212> PRT
 <213> Shigella Flexneri

<220>
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 <222> (21) .. (22)
 <223> MISC_FEATURE

<220>
 <221> MISC_FEATURE
 <222> (24) .. (31)
 <223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (33) .. (38)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (40) .. (41)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (44) .. (44)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (46) .. (46)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (49) .. (49)

<223> MISC_FEATURE

<400> 276

Pro	Pro	Pro	Pro	Thr	His	Val	His	Thr	Val	Ser	Ala	Gln	Cys	Leu	Leu
1				5				10						15	

Phe	Phe	Phe	Lys	Xaa	Xaa	Phe	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Lys
			20				25						30		



Asn Ile Glu Asn Met Leu Gln Asn Lys Lys Thr Ser Ser Gln Leu Ser
130 135 140

Arg Glu Arg Glu Glu Gln Glu Arg Lys Glu Leu Gln Arg Met Leu Leu
 145 150 155 160

Ala Ala Gly Ser Ala Ala Ser Gly Asn Asn His Arg Asp Asp Asp Thr
 165 170 175

Ala Ser Val Thr Ser Leu Asn Ser Ser Ala Thr Gly Arg Cys Leu Lys
 180 185 190

Ile Tyr Arg Thr Phe Arg Asp Glu Glu Gly Lys Glu Tyr Val Arg Cys
 195 200 205

Glu Thr Val Arg Lys Pro Ala Val Ile Asp Ala Tyr Val Arg Ile Arg
 210 215 220

Thr Thr Lys Asp Glu Glu Phe Ile Arg Lys Phe Ala Leu Phe Asp Glu
 225 230 235 240

Gln His Arg Glu Glu Met Arg Lys Glu Arg Arg Arg Ile Gln Glu Gln
 245 250 255

Leu Arg Arg Leu Lys Arg Asn Gln Glu Lys Glu Lys Leu Lys Gly Pro
 260 265 270

Pro Glu Lys Lys Pro Lys Lys Met Lys Glu Arg Pro Asp Leu Lys Leu
 275 280 285

Lys Cys Gly Ala Cys Gly Ala Ile Gly His Met Arg Thr Asn Lys Phe
 290 295 300

Cys Pro Leu Tyr Tyr Gln Thr Asn Ala Pro Pro Ser Asn Pro Val Ala
 305 310 315 320

Met Thr Glu Glu Gln Glu Glu Glu Leu Glu Lys Thr Val Ile His Asn
 325 330 335

Asp Asn Glu Glu Leu Ile Lys Val Glu Gly Thr Lys Ile Val Leu Gly
 340 345 350

Lys Gln Leu Ile Glu Ser Ala Asp Glu Val Arg Arg Lys Ser Leu Val
 355 360 365

Leu Lys Phe Pro Lys Gln Gln Leu Pro Pro Lys Lys Lys Arg Arg Val

370

375

380

Gly Thr Thr Val His Cys Asp Tyr Leu Asn Arg Pro His Lys Ser Ile
 385 390 395 400

His Arg Arg Arg Thr Asp Pro Met Val Thr Leu Ser Ser Ile Leu Glu
 405 410 415

Ser Ile Ile Asn Asp Met Arg Asp Leu Pro Asn Thr Tyr Pro Phe His
 420 425 430

Thr Pro Val Asn Ala Lys Val Val Lys Asp Tyr Tyr Lys Ile Ile Thr
 435 440 445

Arg Pro Met Asp Leu Gln Thr Leu Arg Glu Asn Val Arg Lys Arg Leu
 450 455 460

Tyr Pro Ser Arg Glu Glu Phe Arg Glu His Leu Glu Leu Ile Val Lys
 465 470 475 480

Asn Ser Ala Thr Tyr Asn Gly Pro Lys His Ser Leu Thr Gln Ile Ser
 485 490 495

Gln Ser Met Leu Asp Leu Cys Asp Glu Lys Leu Lys Glu Lys Glu Asp
 500 505 510

Lys Leu Ala Arg Leu Glu Lys Ala Ile Asn Pro Leu Leu Asp Asp Asp
 515 520 525

Asp Gln Val Ala Phe Ser Phe Ile Leu Asp Asn Ile Val Thr Gln Lys
 530 535 540

Met Met Ala Val Pro Asp Ser Trp Pro Phe His His Pro Val Asn Lys
 545 550 555 560

Lys Phe Val Pro Asp Tyr Tyr Lys Val Ile Val Asn Pro Met Asp Leu
 565 570 575

Glu Thr Ile Arg Lys Asn Ile Ser Lys His Lys Tyr Gln Ser Arg Glu
 580 585 590

Ser Phe Leu Asp Asp Val Asn Leu Ile Leu Ala Asn Ser Val Lys Tyr
 595 600 605

Asn Gly Pro Glu Ser Gln Tyr Thr Lys Thr Ala Gln Glu Ile Val Asn
610 615 620

Val Cys Tyr Gln Thr Leu Thr Glu Tyr Asp Glu His Leu Thr Gln Leu
625 630 635 640

Glu Lys Asp Ile Cys Thr Ala Lys Glu Ala Ala Leu Glu Glu Ala Glu
645 650 655

Leu Glu Ser Leu Asp Pro Met Thr Pro Gly Pro Tyr Thr Pro Gln Pro
660 665 670

Pro Asp Leu Tyr Asp Thr Asn Thr Ser Leu Ser Met Ser Arg Asp Ala
675 680 685

Ser Val Phe Gln Asp Glu Ser Asn Met Ser Val Leu Asp Ile Pro Ser
690 695 700

Ala Thr Pro Glu Lys Gln Val Thr Gln Glu Gly Glu Asp Gly Asp Gly
705 710 715 720

Asp Leu Ala Asp Glu Glu Glu Gly Thr Val Gln Gln Pro Gln Ala Ser
725 730 735

Val Leu Tyr Glu Asp Leu Leu Met Ser Glu Gly Glu Asp Asp Glu Glu
740 745 750

Asp Ala Gly Ser Asp Glu Glu Gly Asp Asn Pro Phe Ser Ala Ile Gln
755 760 765

Leu Ser Glu Ser Gly Ser Asp Ser Asp Val Gly Ser Gly Gly Ile Arg
770 775 780

Pro Lys Gln Pro Arg Met Leu Gln Glu Asn Thr Arg Met Asp Met Glu
785 790 795 800

Asn Glu Glu Ser Met Met Ser Tyr Glu Gly Asp Gly Gly Glu Ala Ser
805 810 815

His Gly Leu Glu Asp Ser Asn Ile Ser Tyr Gly Ser Tyr Glu Glu Pro
820 825 830

Asp Pro Lys Ser Asn Thr Gln Asp Thr Ser Phe Ser Ser Ile Gly Gly
 835 840 845

Tyr Glu Val Ser Glu Glu Glu Glu Asp Glu Glu Glu Glu Gln Arg
 850 855 860

Ser Gly Pro Ser Val Leu Ser Gln Val His Leu Ser Glu Asp Glu Glu
 865 870 875 880

Asp Ser Glu Asp Phe His Ser Ile Ala Gly Asp Ser Asp Leu Asp Ser
 885 890 895

Asp Glu

<210> 278

<211> 16

<212> PRT

<213> Shigella Flexneri

<400> 278

Pro Leu Tyr Ser Thr Arg Leu Ile Leu Thr Ser Pro Leu Ala Tyr Leu
 1 5 10 15

<210> 279

<211> 9

<212> PRT

<213> Shigella Flexneri

<400> 279

Pro Pro His Leu Thr Leu Val Phe Phe
 1 5

<210> 280

<211> 197

<212> PRT

<213> Shigella Flexneri

<400> 280

Glu Ala Arg Lys Ala His Gln Leu Trp Leu Ser Val Glu Ala Leu Lys
1 5 10 15

Tyr Ser Met Lys Thr Ser Ser Ala Glu Thr Pro Thr Ile Pro Leu Gly
20 25 30

Ser Ala Val Glu Ala Ile Lys Ala Asn Cys Ser Asp Asn Glu Phe Thr
35 40 45

Gln Ala Leu Thr Ala Ala Ile Pro Pro Glu Ser Leu Thr Arg Gly Val
50 55 60

Tyr Ser Glu Glu Thr Leu Arg Ala Arg Phe Tyr Ala Val Gln Lys Leu
65 70 75 80

Ala Arg Arg Val Ala Met Ile Asp Glu Thr Arg Asn Ser Leu Tyr Gln
85 90 95

Tyr Phe Leu Ser Tyr Leu Gln Ser Leu Leu Leu Phe Pro Pro Gln Gln
100 105 110

Leu Lys Pro Pro Pro Glu Leu Cys Pro Glu Asp Ile Asn Thr Phe Lys
115 120 125

Leu Leu Ser Tyr Ala Ser Tyr Cys Ile Glu His Gly Asp Leu Glu Leu
130 135 140

Ala Ala Lys Phe Val Asn Gln Leu Lys Gly Glu Ser Arg Arg Val Ala
145 150 155 160

Gln Asp Trp Leu Lys Glu Ala Arg Met Thr Leu Glu Thr Lys Gln Ile
165 170 175

Val Glu Ile Leu Thr Ala Tyr Ala Ser Ala Val Gly Ile Gly Thr Thr
180 185 190

Gln Val Gln Pro Glu

195

<210> 281

<211> 144

<212> PRT

<213> Shigella Flexneri

<400> 281

Met	Lys	Ser	Gln	Trp	Cys	Arg	Pro	Val	Ala	Met	Asp	Leu	Gly	Val	Tyr
1				5					10					15	

Gln	Leu	Arg	His	Phe	Ser	Ile	Ser	Phe	Leu	Ser	Ser	Leu	Leu	Gly	Thr
			20					25					30		

Glu	Asn	Ala	Ser	Val	Arg	Leu	Asp	Asn	Ser	Ser	Ser	Gly	Ala	Ser	Val
	35						40					45			

Val	Ala	Ile	Asp	Asn	Lys	Ile	Glu	Gln	Ala	Met	Asp	Leu	Val	Lys	Ser
	50					55					60				

His	Leu	Met	Tyr	Ala	Val	Arg	Glu	Glu	Val	Glu	Val	Leu	Lys	Glu	Gln
65					70					75					80

Ile	Lys	Glu	Leu	Ile	Glu	Lys	Asn	Ser	Gln	Leu	Glu	Gln	Glu	Asn	Asn
			85						90					95	

Leu	Leu	Lys	Thr	Leu	Ala	Ser	Pro	Glu	Gln	Leu	Ala	Gln	Phe	Gln	Ala
			100					105						110	

Gln	Leu	Gln	Thr	Gly	Ser	Pro	Pro	Ala	Thr	Thr	Gln	Pro	Gln	Gly	Thr
			115					120				125			

Thr	Gln	Pro	Pro	Ala	Gln	Pro	Ala	Ser	Gln	Gly	Ser	Gly	Pro	Thr	Ala
	130						135					140			

<210> 282

<211> 416

<212> PRT

<213> Shigella Flexneri

<400> 282

Trp Glu Gln Glu Leu Tyr Asn Asn Phe Val Tyr Asn Ser Pro Arg Gly
1 5 10 15

Tyr Phe His Thr Phe Ala Gly Asp Thr Cys Gln Val Ala Leu Asn Phe
20 25 30

Ala Asn Glu Glu Glu Ala Lys Lys Phe Arg Lys Ala Val Thr Asp Leu
35 40 45

Leu Gly Arg Arg Gln Arg Lys Ser Glu Lys Arg Arg Asp Pro Pro Asn
50 55 60

Gly Pro Asn Leu Pro Met Ala Thr Val Asp Ile Lys Asn Pro Glu Ile
65 70 75 80

Thr Thr Asn Arg Phe Tyr Gly Pro Gln Val Asn Asn Ile Ser His Thr
85 90 95

Lys Glu Lys Lys Lys Gly Lys Ala Lys Lys Lys Arg Leu Thr Lys Gly
100 105 110

Asp Ile Gly Thr Pro Ser Asn Phe Gln His Ile Gly His Val Gly Trp
115 120 125

Asp Pro Asn Thr Gly Ser Asp Leu Asn Asn Leu Asp Pro Glu Leu Lys
130 135 140

Asn Leu Phe Asp Met Cys Gly Ile Leu Glu Ala Gln Leu Lys Glu Arg
145 150 155 160

Glu Thr Leu Lys Val Ile Tyr Asp Phe Ile Glu Lys Thr Gly Gly Val
165 170 175

Glu Ala Val Lys Asn Glu Leu Arg Arg Gln Ala Pro Pro Pro Pro Pro
180 185 190

Pro Ser Arg Gly Gly Pro Pro Pro Pro Pro Pro Pro His Ser Ser
195 200 205

Gly Pro Pro Pro Pro Pro Ala Arg Gly Arg Gly Ala Pro Pro Pro Pro
 210 215 220

Pro Ser Arg Ala Pro Thr Ala Ala Pro Pro Pro Pro Pro Pro Ser Arg
 225 230 235 240

Pro Ser Val Glu Val Pro Pro Pro Pro Pro Asn Arg Met Tyr Pro Pro
 245 250 255

Pro Pro Pro Ala Leu Pro Ser Ser Ala Pro Ser Gly Pro Pro Pro Pro
 260 265 270

Pro Pro Ser Val Leu Gly Val Gly Pro Val Ala Pro Pro Pro Pro Pro
 275 280 285

Pro Pro Pro Pro Pro Pro Gly Pro Pro Pro Pro Pro Gly Leu Pro Ser
 290 295 300

Asp Gly Asp His Gln Val Pro Thr Thr Ala Gly Asn Lys Ala Ala Leu
 305 310 315 320

Leu Asp Gln Ile Arg Glu Gly Ala Gln Leu Lys Lys Val Glu Gln Asn
 325 330 335

Ser Arg Pro Val Ser Cys Ser Gly Arg Asp Ala Leu Leu Asp Gln Ile
 340 345 350

Arg Gln Gly Ile Gln Leu Lys Ser Val Ala Asp Gly Gln Glu Ser Thr
 355 360 365

Pro Pro Thr Pro Ala Pro Thr Ser Gly Ile Val Gly Ala Leu Met Glu
 370 375 380

Val Met Gln Lys Arg Ser Lys Ala Ile His Ser Ser Asp Glu Asp Glu
 385 390 395 400

Asp Glu Asp Asp Glu Glu Asp Phe Glu Asp Asp Asp Glu Trp Glu Asp
 405 410 415

<210> 283

<211> 21

<212> PRT

<213> Shigella Flexneri

<400> 283

Ile	Ala	Phe	His	Val	Tyr	Cys	Asp	Ser	Ala	Leu	Gly	Arg	Tyr	Phe	Leu
1				5					10					15	

Phe	Leu	Leu	Leu	Leu
				20

<210> 284

<211> 28

<212> PRT

<213> Shigella Flexneri

<400> 284

Glu	Lys	Arg	Gly	Ser	Asn	Ser	Val	Phe	Val	His	Lys	Lys	Ser	Ile	Ile
1				5					10					15	

Pro	Glu	Glu	Glu	Cys	Tyr	Ile	Asn	Cys	Val	Phe	Gln
			20					25			

<210> 285

<211> 1488

<212> PRT

<213> Shigella Flexneri

<400> 285

Ala	Ala	Leu	Pro	Asp	Asp	Ile	Arg	Arg	Glu	Val	Leu	Gln	Asn	Gln	Leu
1				5					10					15	

Gly	Ile	Arg	Pro	Pro	Thr	Arg	Thr	Ala	Pro	Ser	Thr	Asn	Ser	Ser	Ala
			20					25					30		

Pro	Ala	Val	Val	Gly	Asn	Pro	Gly	Val	Thr	Glu	Val	Ser	Pro	Glu	Phe
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

35

40

45

Leu Ala Ala Leu Pro Pro Ala Ile Gln Glu Glu Val Leu Ala Gln Gln
 50 55 60

Arg Ala Glu Gln Gln Arg Arg Glu Leu Ala Gln Asn Ala Ser Ser Asp
 65 70 75 80

Thr Pro Met Asp Pro Val Thr Phe Ile Gln Thr Leu Pro Ser Asp Leu
 85 90 95

Arg Arg Ser Val Leu Glu Asp Met Glu Asp Ser Val Leu Ala Val Met
 100 105 110

Pro Pro Asp Ile Ala Ala Glu Ala Gln Ala Leu Arg Arg Glu Gln Glu
 115 120 125

Ala Arg Gln Arg Gln Leu Met His Glu Arg Leu Phe Gly His Ser Ser
 130 135 140

Thr Ser Ala Leu Ser Ala Ile Leu Arg Ser Pro Ala Phe Thr Ser Arg
 145 150 155 160

Leu Ser Gly Asn Arg Gly Val Gln Tyr Thr Arg Leu Ala Val Gln Arg
 165 170 175

Gly Gly Thr Phe Gln Met Gly Gly Ser Ser Ser His Asn Arg Pro Ser
 180 185 190

Gly Ser Asn Val Asp Thr Leu Leu Arg Leu Arg Gly Arg Leu Leu Leu
 195 200 205

Asp His Glu Ala Leu Ser Cys Leu Leu Val Leu Leu Phe Val Asp Glu
 210 215 220

Pro Lys Leu Asn Thr Ser Arg Leu His Arg Val Leu Arg Asn Leu Cys
 225 230 235 240

Tyr His Ala Gln Thr Arg His Trp Val Ile Arg Ser Leu Leu Ser Ile
 245 250 255

Leu Gln Arg Ser Ser Glu Ser Glu Leu Cys Ile Glu Thr Pro Lys Leu
 260 265 270

Thr Thr Ser Glu Glu Lys Gly Lys Lys Ser Ser Lys Ser Cys Gly Ser
 275 280 285

Ser Ser His Glu Asn Arg Pro Leu Asp Leu Leu His Lys Met Glu Ser
 290 295 300

Lys Ser Ser Asn Gln Leu Ser Trp Leu Ser Val Ser Met Asp Ala Ala
 305 310 315 320

Leu Gly Cys Arg Thr Asn Ile Phe Gln Ile Gln Arg Ser Gly Gly Arg
 325 330 335

Lys His Thr Glu Lys His Ala Ser Gly Gly Ser Thr Val His Ile His
 340 345 350

Pro Gln Ala Ala Pro Val Val Cys Arg His Val Leu Asp Thr Leu Ile
 355 360 365

Gln Leu Ala Lys Val Phe Pro Ser His Phe Thr Gln Gln Arg Thr Lys
 370 375 380

Glu Thr Asn Cys Glu Ser Asp Arg Glu Arg Gly Asn Lys Ala Cys Ser
 385 390 395 400

Pro Cys Ser Ser Gln Ser Ser Ser Ser Gly Ile Cys Thr Asp Phe Trp
 405 410 415

Asp Leu Leu Val Lys Leu Asp Asn Met Asn Val Ser Arg Lys Gly Lys
 420 425 430

Asn Ser Val Lys Ser Val Pro Val Ser Ala Gly Gly Glu Gly Glu Thr
 435 440 445

Ser Pro Tyr Ser Leu Glu Ala Ser Pro Leu Gly Gln Leu Met Asn Met
 450 455 460

Leu Ser His Pro Val Ile Arg Arg Ser Ser Leu Leu Thr Glu Lys Leu
 465 470 475 480

Leu Arg Leu Leu Ser Leu Ile Ser Ile Ala Leu Pro Glu Asn Lys Val
 485 490 495

Ser Glu Ala Gln Ala Asn Ser Gly Ser Gly Ala Ser Ser Thr Thr Thr
 500 505 510

Ala Thr Ser Thr Thr Ser Thr Thr Thr Thr Thr Ala Ala Ser Thr Thr
 515 520 525

Pro Thr Pro Pro Thr Ala Pro Thr Pro Val Thr Ser Ala Pro Ala Leu
 530 535 540

Val Ala Ala Thr Ala Ile Ser Thr Ile Val Val Ala Ala Ser Thr Thr
 545 550 555 560

Val Thr Thr Pro Thr Thr Ala Thr Thr Thr Val Ser Ile Ser Pro Thr
 565 570 575

Thr Lys Gly Ser Lys Ser Pro Ala Lys Val Ser Asp Gly Gly Ser Ser
 580 585 590

Ser Thr Asp Phe Lys Met Val Ser Ser Gly Leu Thr Glu Asn Gln Leu
 595 600 605

Gln Leu Ser Val Glu Val Leu Thr Ser His Ser Cys Ser Glu Glu Gly
 610 615 620

Leu Glu Asp Ala Ala Asn Val Leu Leu Gln Leu Ser Arg Gly Asp Ser
 625 630 635 640

Gly Thr Arg Asp Thr Val Leu Lys Leu Leu Leu Asn Gly Ala Arg His
 645 650 655

Leu Gly Tyr Thr Leu Cys Lys Gln Ile Gly Thr Leu Leu Ala Glu Leu
 660 665 670

Arg Glu Tyr Asn Leu Glu Gln Gln Arg Arg Ala Gln Cys Glu Thr Leu
 675 680 685

Ser Pro Asp Gly Leu Pro Glu Glu Gln Pro Gln Thr Thr Lys Leu Lys
 690 695 700

Gly Lys Met Gln Ser Arg Phe Asp Met Ala Glu Asn Val Val Ile Val
 705 710 715 720

Ala Ser Gln Lys Arg Pro Leu Gly Gly Arg Glu Leu Gln Leu Pro Ser
725 730 735

Met Ser Met Leu Thr Ser Lys Thr Ser Thr Gln Lys Phe Phe Leu Arg
740 745 750

Val Leu Gln Val Ile Ile Gln Leu Arg Asp Asp Thr Arg Arg Ala Asn
755 760 765

Lys Lys Ala Lys Gln Thr Gly Arg Leu Gly Ser Ser Gly Leu Gly Ser
770 775 780

Ala Ser Ser Ile Gln Ala Ala Val Arg Gln Leu Glu Ala Glu Ala Asp
785 790 795 800

Ala Ile Ile Gln Met Val Arg Glu Gly Gln Arg Ala Arg Arg Gln Gln
805 810 815

Gln Ala Ala Thr Ser Glu Ser Ser Gln Ser Glu Ala Ser Val Arg Arg
820 825 830

Glu Glu Ser Pro Met Asp Val Asp Gln Pro Ser Pro Ser Ala Gln Asp
835 840 845

Thr Gln Ser Ile Ala Ser Asp Gly Thr Pro Gln Gly Glu Lys Glu Lys
850 855 860

Glu Glu Arg Pro Pro Glu Leu Pro Leu Leu Ser Glu Gln Leu Ser Leu
865 870 875 880

Asp Glu Leu Trp Asp Met Leu Gly Glu Cys Leu Lys Glu Leu Glu Glu
885 890 895

Ser His Asp Gln His Ala Val Leu Val Leu Gln Pro Ala Val Glu Ala
900 905 910

Phe Phe Leu Val His Ala Thr Glu Arg Glu Ser Lys Pro Pro Val Arg
915 920 925

Asp Thr Arg Glu Ser Gln Leu Ala His Ile Lys Asp Glu Pro Pro Pro
930 935 940

Leu Ser Pro Ala Pro Leu Thr Pro Ala Thr Pro Ser Ser Leu Asp Pro

945	950	955	960
Phe Phe Ser Arg Glu Pro Ser Ser Met His Ile Ser Ser Ser Leu Pro	965	970	975
Pro Asp Thr Gln Lys Phe Leu Arg Phe Ala Glu Thr His Arg Thr Val	980	985	990
Leu Asn Gln Ile Leu Arg Gln Ser Thr Thr His Leu Ala Asp Gly Pro	995	1000	1005
Phe Ala Val Leu Val Asp Tyr Ile Arg Val Leu Asp Phe Asp Val	1010	1015	1020
Lys Arg Lys Tyr Phe Arg Gln Glu Leu Glu Arg Leu Asp Glu Gly	1025	1030	1035
Leu Arg Lys Glu Asp Met Ala Val His Val Arg Arg Asp His Val	1040	1045	1050
Phe Glu Asp Ser Tyr Arg Glu Leu His Arg Lys Ser Pro Glu Glu	1055	1060	1065
Met Lys Asn Arg Leu Tyr Ile Val Phe Glu Gly Glu Glu Gly Gln	1070	1075	1080
Asp Ala Gly Gly Leu Leu Arg Glu Trp Tyr Met Ile Ile Ser Arg	1085	1090	1095
Glu Met Phe Asn Pro Met Tyr Ala Leu Phe Arg Thr Ser Pro Gly	1100	1105	1110
Asp Arg Val Thr Tyr Thr Ile Asn Pro Ser Ser His Cys Asn Pro	1115	1120	1125
Asn His Leu Ser Tyr Phe Lys Phe Val Gly Arg Ile Val Ala Lys	1130	1135	1140
Ala Val Tyr Asp Asn Arg Leu Leu Glu Cys Tyr Phe Thr Arg Ser	1145	1150	1155
Phe Tyr Lys His Ile Leu Gly Lys Ser Val Arg Tyr Thr Asp Met	1160	1165	1170

Glu Ser	Glu Asp Tyr His Phe	Tyr Gln Gly Leu Val	Tyr Leu Leu
1175	1180	1185	
Glu Asn	Asp Val Ser Thr Leu	Gly Tyr Asp Leu Thr	Phe Ser Thr
1190	1195	1200	
Glu Val	Gln Glu Phe Gly Val	Cys Glu Val Arg Asp	Leu Lys Pro
1205	1210	1215	
Asn Gly	Ala Asn Ile Leu Val	Thr Glu Glu Asn Lys	Lys Glu Tyr
1220	1225	1230	
Val His	Leu Val Cys Gln Met	Arg Met Thr Gly Ala	Ile Arg Lys
1235	1240	1245	
Gln Leu	Ala Ala Phe Leu Glu	Gly Phe Tyr Glu Ile	Ile Pro Lys
1250	1255	1260	
Arg Leu	Ile Ser Ile Phe Thr	Glu Gln Glu Leu Glu	Leu Leu Ile
1265	1270	1275	
Ser Gly	Leu Pro Thr Ile Asp	Ile Asp Asp Leu Lys	Ser Asn Thr
1280	1285	1290	
Glu Tyr	His Lys Tyr Gln Ser	Asn Ser Ile Gln Ile	Gln Trp Phe
1295	1300	1305	
Trp Arg	Ala Leu Arg Ser Phe	Asp Gln Ala Asp Arg	Ala Lys Phe
1310	1315	1320	
Leu Gln	Phe Val Thr Gly Thr	Ser Lys Val Pro Leu	Gln Gly Phe
1325	1330	1335	
Ala Ala	Leu Glu Gly Met Asn	Gly Ile Gln Lys Phe	Gln Ile His
1340	1345	1350	
Arg Asp	Asp Arg Ser Thr Asp	Arg Leu Pro Ser Ala	His Thr Cys
1355	1360	1365	
Phe Asn	Gln Leu Asp Leu Pro	Ala Tyr Glu Ser Phe	Glu Lys Ser
1370	1375	1380	

Ala Thr Cys Tyr Cys Trp Leu Ser Arg Ser Ala Leu Lys Ala Leu
 1385 1390 1395

Gly Trp Pro Asn Lys Ala Leu Pro Asn Ser Val Gly Phe Phe Leu
 1400 1405 1410

Pro Leu Leu Asp Leu Gly Arg Gly Glu Leu Lys Lys Glu Pro Glu
 1415 1420 1425

Arg Asn Cys Gln Lys Pro Ile Asn Glu Ile His Gln Leu Thr Val
 1430 1435 1440

Cys Val Pro Ala Ala Pro Ser Ser Pro Ala His Thr Cys Ser Ser
 1445 1450 1455

Ser His Ser Leu Pro Ala Ala Cys Phe Leu Thr Phe Ser Pro Leu
 1460 1465 1470

Ser Met Pro Ser Met Ile Pro Thr Pro Cys Val Leu Lys Arg Gln
 1475 1480 1485

<210> 286

<211> 476

<212> PRT

<213> Shigella Flexneri

<400> 286

Arg Lys Cys Ser Gln His Asn Arg Leu Arg Glu Phe Phe Cys Pro Glu
 1 5 10 15

His Ser Glu Cys Ile Cys His Ile Cys Leu Val Glu His Lys Thr Cys
 20 25 30

Ser Pro Ala Ser Leu Ser Gln Ala Ser Ala Asp Leu Glu Ala Thr Leu
 35 40 45

Arg His Lys Leu Thr Val Met Tyr Ser Gln Ile Asn Gly Ala Ser Arg
 50 55 60

Ala Leu Asp Asp Val Arg Asn Arg Gln Gln Asp Val Arg Met Thr Ala
65 70 75 80

Asn Arg Lys Val Glu Gln Leu Gln Gln Glu Tyr Thr Glu Met Lys Ala
85 90 95

Leu Leu Asp Ala Ser Glu Thr Thr Ser Thr Arg Lys Ile Lys Glu Glu
100 105 110

Glu Lys Arg Val Asn Ser Lys Phe Asp Thr Ile Tyr Gln Ile Leu Leu
115 120 125

Lys Lys Lys Ser Glu Ile Gln Thr Leu Lys Glu Glu Ile Glu Gln Ser
130 135 140

Leu Thr Lys Arg Asp Glu Phe Glu Phe Leu Glu Lys Ala Ser Lys Leu
145 150 155 160

Arg Gly Ile Ser Thr Lys Pro Val Tyr Ile Pro Glu Val Glu Leu Asn
165 170 175

His Lys Leu Ile Lys Gly Ile His Gln Ser Thr Ile Asp Leu Lys Asn
180 185 190

Glu Leu Lys Gln Cys Ile Gly Arg Leu Gln Glu Leu Thr Pro Ser Ser
195 200 205

Gly Asp Pro Gly Glu His Asp Pro Ala Ser Thr His Lys Ser Thr Arg
210 215 220

Pro Val Lys Lys Val Ser Lys Glu Glu Lys Lys Ser Lys Lys Pro Pro
225 230 235 240

Pro Val Pro Ala Leu Pro Ser Lys Leu Pro Thr Phe Gly Ala Pro Glu
245 250 255

Gln Leu Val Asp Leu Lys Gln Ala Gly Leu Glu Ala Ala Ala Lys Ala
260 265 270

Thr Ser Ser His Pro Asn Ser Thr Ser Leu Lys Ala Lys Val Leu Glu
275 280 285

Thr Phe Leu Ala Lys Ser Arg Pro Glu Leu Leu Glu Tyr Tyr Ile Lys

290

295

300

Val Ile Leu Asp Tyr Asn Thr Ala His Asn Lys Val Ala Leu Ser Glu
 305 310 315 320

Cys Tyr Thr Val Ala Ser Val Ala Glu Met Pro Gln Asn Tyr Arg Pro
 325 330 335

His Pro Gln Arg Phe Thr Tyr Cys Ser Gln Val Leu Gly Leu His Cys
 340 345 350

Tyr Lys Lys Gly Ile His Tyr Trp Glu Val Glu Leu Gln Lys Asn Asn
 355 360 365

Phe Cys Gly Val Gly Ile Cys Tyr Gly Ser Met Asn Arg Gln Gly Pro
 370 375 380

Glu Ser Arg Leu Gly Arg Asn Ser Ala Ser Trp Cys Val Glu Trp Phe
 385 390 395 400

Asn Thr Lys Ile Ser Ala Trp His Asn Asn Val Glu Lys Thr Leu Pro
 405 410 415

Ser Thr Lys Ala Thr Arg Val Gly Val Leu Leu Asn Cys Asp His Gly
 420 425 430

Phe Val Ile Phe Phe Ala Val Ala Asp Lys Val His Leu Met Tyr Lys
 435 440 445

Phe Arg Val Asp Phe Thr Glu Ala Leu Tyr Pro Ala Phe Trp Val Phe
 450 455 460

Ser Ala Gly Ala Thr Leu Ser Ile Cys Ser Pro Lys
 465 470 475

<210> 287

<211> 897

<212> PRT

<213> Shigella Flexneri

<400> 287

Met Glu Gln Leu Ala Asp Val Thr Leu Arg Arg Leu Leu Asp Asn Glu
 1 5 10 15

Val Phe Asp Leu Asp Pro Asp Leu Gln Glu Pro Ser Gln Ile Thr Lys
 20 25 30

Arg Asp Leu Glu Ala Arg Ala Gln Asn Glu Phe Phe Arg Ala Phe Phe
 35 40 45

Arg Leu Pro Arg Lys Glu Lys Leu His Ala Val Val Asp Cys Ser Leu
 50 55 60

Trp Thr Pro Phe Ser Arg Cys His Thr Ala Gly Arg Met Phe Ala Ser
 65 70 75 80

Asp Ser Tyr Ile Cys Phe Ala Ser Arg Glu Asp Gly Cys Cys Lys Ile
 85 90 95

Ile Leu Pro Leu Arg Glu Val Val Ser Ile Glu Lys Met Glu Asp Thr
 100 105 110

Ser Leu Leu Pro His Pro Ile Ile Val Ser Ile Arg Ser Lys Val Ala
 115 120 125

Phe Gln Phe Ile Glu Leu Arg Asp Arg Asp Ser Leu Val Glu Ala Leu
 130 135 140

Leu Ala Arg Leu Lys Gln Val His Ala Asn His Pro Val His Tyr Asp
 145 150 155 160

Thr Ser Ala Asp Asp Asp Met Ala Ser Leu Val Phe His Ser Thr Ser
 165 170 175

Met Cys Ser Asp His Arg Phe Gly Asp Leu Glu Met Met Ser Ser Gln
 180 185 190

Asn Ser Glu Glu Ser Glu Lys Glu Lys Ser Pro Leu Met His Pro Asp
 195 200 205

Ala Leu Val Thr Ala Phe Gln Gln Ser Gly Ser Gln Ser Pro Asp Ser
 210 215 220

Arg Met Ser Arg Glu Gln Ile Lys Ile Ser Leu Trp Asn Asp His Phe
225 230 235 240

Val Glu Tyr Gly Arg Thr Val Cys Met Phe Arg Thr Glu Lys Ile Arg
245 250 255

Lys Leu Val Ala Met Gly Ile Pro Glu Ser Leu Arg Gly Arg Leu Trp
260 265 270

Leu Leu Phe Ser Asp Ala Val Thr Asp Leu Ala Ser His Pro Gly Tyr
275 280 285

Tyr Gly Asn Leu Val Glu Glu Ser Leu Gly Lys Cys Cys Leu Val Thr
290 295 300

Glu Glu Ile Glu Arg Asp Leu His Arg Ser Leu Pro Glu His Pro Ala
305 310 315 320

Phe Gln Asn Glu Thr Gly Ile Ala Ala Leu Arg Arg Val Leu Thr Ala
325 330 335

Tyr Ala His Arg Asn Pro Lys Ile Gly Tyr Cys Gln Ser Met Asn Ile
340 345 350

Leu Thr Ser Val Leu Leu Leu Tyr Thr Lys Glu Glu Glu Ala Phe Trp
355 360 365

Leu Leu Val Ala Val Cys Glu Arg Met Leu Pro Asp Tyr Phe Asn His
370 375 380

Arg Val Ile Gly Ala Gln Val Asp Gln Ser Val Phe Glu Glu Leu Ile
385 390 395 400

Lys Gly His Leu Pro Glu Leu Ala Glu His Met Asn Asp Leu Ser Ala
405 410 415

Leu Ala Ser Val Ser Leu Ser Trp Phe Leu Thr Leu Phe Leu Ser Ile
420 425 430

Met Pro Leu Glu Ser Ala Val Asn Val Val Asp Cys Phe Phe Tyr Asp
435 440 445

Gly Ile Lys Ala Ile Phe Gln Leu Gly Leu Ala Val Leu Glu Ala Asn
 450 455 460

Ala Glu Asp Leu Cys Ser Ser Lys Asp Asp Gly Gln Ala Leu Met Ile
 465 470 475 480

Leu Ser Arg Phe Leu Asp His Ile Lys Asn Glu Asp Ser Pro Gly Pro
 485 490 495

Pro Val Gly Ser His His Ala Phe Phe Ser Asp Asp Gln Glu Pro Tyr
 500 505 510

Pro Val Thr Asp Ile Ser Asp Leu Ile Arg Asp Ser Tyr Glu Lys Phe
 515 520 525

Gly Asp Gln Ser Val Glu Gln Ile Glu His Leu Arg Tyr Lys His Arg
 530 535 540

Ile Arg Val Leu Gln Gly His Glu Asp Thr Thr Lys Gln Asn Val Leu
 545 550 555 560

Arg Val Val Ile Pro Glu Val Ser Ile Leu Pro Glu Asp Leu Glu Glu
 565 570 575

Leu Tyr Asp Leu Phe Lys Arg Glu His Met Met Ser Cys Tyr Trp Glu
 580 585 590

Gln Pro Arg Pro Met Ala Ser Arg His Asp Pro Ser Arg Pro Tyr Ala
 595 600 605

Glu Gln Tyr Arg Ile Asp Ala Arg Gln Phe Ala His Leu Phe Gln Leu
 610 615 620

Val Ser Pro Trp Thr Cys Gly Ala His Thr Glu Ile Leu Ala Glu Arg
 625 630 635 640

Thr Phe Arg Leu Leu Asp Asp Asn Met Asp Gln Leu Ile Glu Phe Lys
 645 650 655

Ala Phe Val Ser Cys Leu Asp Ile Met Tyr Asn Gly Glu Met Asn Glu
 660 665 670

Lys Ile Lys Leu Leu Tyr Arg Leu His Ile Pro Pro Ala Leu Thr Glu

675

680

685

Asn Asp Arg Asp Ser Gln Ser Pro Leu Arg Asn Pro Leu Leu Ser Thr
 690 695 700

Ser Arg Pro Leu Val Phe Gly Lys Pro Asn Gly Asp Ala Val Asp Tyr
 705 710 715 720

Gln Lys Gln Leu Lys Gln Met Ile Lys Asp Leu Ala Lys Glu Lys Asp
 725 730 735

Lys Thr Glu Lys Glu Leu Pro Lys Met Ser Gln Arg Glu Phe Ile Gln
 740 745 750

Phe Cys Lys Thr Leu Tyr Ser Met Phe His Glu Asp Pro Glu Glu Asn
 755 760 765

Asp Leu Tyr Gln Ala Ile Ala Thr Val Thr Thr Leu Leu Leu Gln Ile
 770 775 780

Gly Glu Val Gly Gln Arg Gly Ser Ser Ser Gly Ser Cys Ser Gln Glu
 785 790 795 800

Cys Gly Glu Glu Leu Arg Ala Ser Ala Pro Ser Pro Glu Asp Ser Val
 805 810 815

Phe Ala Asp Thr Gly Lys Thr Pro Gln Asp Ser Gln Ala Leu Pro Glu
 820 825 830

Ala Ala Glu Arg Asp Trp Thr Val Ser Leu Glu His Ile Leu Ala Ser
 835 840 845

Leu Leu Thr Glu Gln Ser Leu Val Asn Phe Phe Glu Lys Pro Leu Asp
 850 855 860

Met Lys Ser Lys Leu Glu Asn Ala Lys Ile Asn Gln Tyr Asn Leu Lys
 865 870 875 880

Thr Phe Glu Met Ser His Gln Ser Gln Ser Glu Leu Lys Leu Ser Asn
 885 890 895

Leu

<210> 288

<211> 219

<212> PRT

<213> Shigella Flexneri

<400> 288

Leu Pro Asp Pro Leu Gln Glu Pro Tyr Tyr Gln Pro Pro Tyr Thr Leu
1 5 10 15

Val Leu Glu Leu Thr Gly Val Leu Leu His Pro Glu Trp Ser Leu Ala
20 25 30

Thr Gly Trp Arg Phe Lys Lys Arg Pro Gly Ile Glu Thr Leu Phe Gln
35 40 45

Gln Leu Ala Pro Leu Tyr Glu Ile Val Ile Phe Thr Ser Glu Thr Gly
50 55 60

Met Thr Ala Phe Pro Leu Ile Asp Ser Val Asp Pro His Gly Phe Ile
65 70 75 80

Ser Tyr Arg Leu Phe Arg Asp Ala Thr Arg Tyr Met Asp Gly His His
85 90 95

Val Lys Asp Ile Ser Cys Leu Asn Arg Asp Pro Ala Arg Val Val Val
100 105 110

Val Asp Cys Lys Lys Glu Ala Phe Arg Leu Gln Pro Tyr Asn Gly Val
115 120 125

Ala Leu Arg Pro Trp Asp Gly Asn Ser Asp Asp Arg Val Leu Leu Asp
130 135 140

Leu Ser Ala Phe Leu Lys Thr Ile Ala Leu Asn Gly Val Glu Asp Val
145 150 155 160

Arg Thr Val Leu Glu His Tyr Ala Leu Glu Asp Asp Pro Leu Ala Ala
165 170 175

Phe Lys Gln Arg Gln Ser Arg Leu Glu Gln Glu Glu Gln Gln Arg Leu
 180 185 190

Ala Glu Leu Ser Lys Ser Asn Lys Gln Asn Leu Phe Leu Gly Ser Leu
 195 200 205

Thr Ser Arg Leu Trp Pro Arg Ser Lys Gln Pro
 210 215

<210> 289

<211> 28

<212> PRT

<213> Shigella Flexneri

<220>

<221> MISC_FEATURE

<222> (9) .. (12)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (14) .. (18)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (20) .. (24)

<223> MISC_FEATURE

<400> 289

Trp Gly Val Gly Met Gly Phe Val Xaa Xaa Xaa Xaa Phe Xaa Xaa Xaa
 1 5 10 15

Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Leu Leu Trp Thr
 20 25

<210> 290

<211> 341

<212> PRT

<213> Shigella Flexneri

<400> 290

Ser His Asn Ser Leu Arg Gly Ala Arg Pro Gln Asp Pro Ser Glu Glu
 1 5 10 15

Gly Pro Gly Asp Phe Gly Phe Leu His Ala Ser Ser Ser Ile Glu Ser
 20 25 30

Glu Ala Lys Pro Ala Gln Pro Gln Pro Thr Gly Glu Lys Glu Gln Asp
 35 40 45

Lys Ser Lys Thr Leu Ser Leu Glu Glu Ala Val Thr Ser Ile Gln Gln
 50 55 60

Leu Phe Gln Leu Ser Val Ser Ile Ala Phe Asn Phe Leu Gly Thr Glu
 65 70 75 80

Asn Met Lys Ser Gly Asp His Thr Ala Ala Phe Ser Tyr Phe Gln Lys
 85 90 95

Ala Ala Ala Arg Gly Tyr Ser Lys Ala Gln Tyr Asn Ala Gly Leu Cys
 100 105 110

His Glu His Gly Arg Gly Thr Pro Arg Asp Ile Ser Lys Ala Val Leu
 115 120 125

Tyr Tyr Gln Leu Ala Ala Ser Gln Gly His Ser Leu Ala Gln Tyr Arg
 130 135 140

Tyr Ala Arg Cys Leu Leu Arg Asp Pro Ala Ser Ser Trp Asn Pro Glu
 145 150 155 160

Arg Gln Arg Ala Val Ser Leu Leu Lys Gln Ala Ala Asp Ser Gly Leu
 165 170 175

Arg Glu Ala Gln Ala Phe Leu Gly Val Leu Phe Thr Lys Glu Pro Tyr
 180 185 190

Leu Asp Glu Gln Arg Ala Val Lys Tyr Leu Trp Leu Ala Ala Asn Asn
 195 200 205

Gly Asp Ser Gln Ser Arg Tyr His Leu Gly Ile Cys Tyr Glu Lys Gly
 210 215 220

Leu Gly Val Gln Arg Asn Leu Gly Glu Ala Leu Arg Cys Tyr Gln Gln
 225 230 235 240

Ser Ala Ala Leu Gly Asn Glu Ala Ala Gln Glu Arg Leu Arg Ala Leu
 245 250 255

Phe Ser Met Gly Ala Ala Ala Pro Gly Pro Ser Asp Leu Thr Val Thr
 260 265 270

Gly Leu Lys Ser Phe Ser Ser Pro Ser Leu Cys Ser Leu Asn Thr Leu
 275 280 285

Leu Ala Gly Thr Ser Arg Leu Pro His Ala Ser Ser Thr Gly Asn Leu
 290 295 300

Gly Leu Leu Cys Arg Ser Gly His Leu Gly Ala Ser Leu Glu Ala Ser
 305 310 315 320

Ser Arg Ala Ile Pro Pro His Pro Tyr Pro Leu Glu Arg Ser Val Val
 325 330 335

Arg Leu Gly Phe Gly
 340

<210> 291

<211> 21

<212> PRT

<213> Shigella Flexneri

<220>

<221> MISC_FEATURE

<222> (1)..(15)

<223> MISC_FEATURE

<400> 291

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Ser
1				5					10					15	

Leu	Cys	Ile	Phe	Phe
			20	

<210> 292

<211> 507

<212> PRT

<213> Shigella Flexneri

<400> 292

Asp	Pro	Val	Ser	Val	Asp	Thr	Ala	Arg	Leu	Glu	His	Leu	Phe	Glu	Ser
1				5					10					15	

Arg	Ala	Lys	Glu	Val	Leu	Pro	Ser	Lys	Lys	Ala	Gly	Glu	Gly	Arg	Arg
			20					25					30		

Thr	Met	Thr	Thr	Val	Leu	Asp	Pro	Lys	Arg	Thr	Asn	Ala	Ile	Asn	Ile
		35					40					45			

Gly	Leu	Thr	Thr	Leu	Pro	Pro	Val	His	Val	Ile	Lys	Ala	Ala	Leu	Leu
	50					55					60				

Asn	Phe	Asp	Glu	Phe	Ala	Val	Ser	Lys	Asp	Gly	Ile	Glu	Lys	Leu	Leu
65					70					75				80	

Thr	Met	Met	Pro	Thr	Glu	Glu	Glu	Arg	Gln	Lys	Ile	Glu	Gly	Ala	Gln
				85					90					95	

Leu Ala Asn Pro Asp Ile Pro Leu Gly Pro Ala Glu Asn Phe Leu Met
 100 105 110

Thr Leu Ala Ser Ile Gly Gly Leu Ala Ala Arg Leu Gln Leu Trp Ala
 115 120 125

Phe Lys Leu Asp Tyr Asp Ser Met Glu Arg Glu Ile Ala Glu Pro Leu
 130 135 140

Phe Asp Leu Lys Val Gly Met Glu Gln Leu Val Gln Asn Ala Thr Phe
 145 150 155 160

Arg Cys Ile Leu Ala Thr Leu Leu Ala Val Gly Asn Phe Leu Asn Gly
 165 170 175

Ser Gln Ser Ser Gly Phe Glu Leu Ser Tyr Leu Glu Lys Val Ser Asp
 180 185 190

Val Lys Asp Thr Val Arg Arg Gln Ser Leu Leu His His Leu Cys Ser
 195 200 205

Leu Val Leu Gln Thr Arg Pro Glu Ser Ser Asp Leu Tyr Ser Glu Ile
 210 215 220

Pro Ala Leu Thr Arg Cys Ala Lys Val Asp Phe Glu Gln Leu Thr Glu
 225 230 235 240

Asn Leu Gly Gln Leu Glu Arg Arg Ser Arg Ala Ala Glu Glu Ser Leu
 245 250 255

Arg Ser Leu Ala Lys His Glu Leu Ala Pro Ala Leu Arg Ala Arg Leu
 260 265 270

Thr His Phe Leu Asp Gln Cys Ala Arg Arg Val Ala Met Leu Arg Ile
 275 280 285

Val His Arg Arg Val Cys Asn Arg Phe His Ala Phe Leu Leu Tyr Leu
 290 295 300

Gly Tyr Thr Pro Gln Ala Ala Arg Glu Val Arg Ile Met Gln Phe Cys
 305 310 315 320

His Thr Leu Arg Glu Phe Ala Leu Glu Tyr Arg Thr Cys Arg Glu Arg
 325 330 335

Val Leu Gln Gln Gln Gln Lys Gln Ala Thr Tyr Arg Glu Arg Asn Lys
 340 345 350

Thr Arg Gly Arg Met Ile Thr Glu Thr Glu Lys Phe Ser Gly Val Ala
 355 360 365

Gly Glu Ala Pro Ser Asn Pro Ser Val Pro Val Ala Val Ser Ser Gly
 370 375 380

Pro Gly Arg Gly Asp Ala Asp Ser His Ala Ser Met Lys Ser Leu Leu
 385 390 395 400

Thr Ser Arg Leu Glu Asp Thr Thr His Asn Arg Arg Ser Arg Gly Met
 405 410 415

Val Gln Ser Ser Ser Pro Ile Met Pro Thr Val Gly Pro Ser Thr Ala
 420 425 430

Ser Pro Glu Glu Pro Pro Gly Ser Ser Leu Pro Ser Asp Thr Ser Asp
 435 440 445

Glu Ile Met Asp Leu Leu Val Gln Ser Val Thr Lys Ser Ser Pro Arg
 450 455 460

Ala Leu Ala Ala Arg Glu Arg Lys Arg Ser Arg Gly Asn Arg Lys Ser
 465 470 475 480

Leu Arg Arg Thr Leu Lys Ser Gly Leu Gly Asp Asp Leu Val Gln Ala
 485 490 495

Leu Gly Leu Ser Lys Gly Pro Gly Leu Glu Val
 500 505

<210> 293

<211> 315

<212> PRT

<213> Shigella Flexneri

<400> 293

Gln Glu Ala Gln Ser Ile Asp Glu Ile Tyr Lys Tyr Asp Lys Lys Gln
 1 5 10 15

Gln Gln Glu Ile Leu Ala Ala Lys Pro Trp Thr Lys Asp His His Tyr
 20 25 30

Phe Lys Tyr Cys Lys Ile Ser Ala Leu Ala Leu Leu Lys Met Val Met
 35 40 45

His Ala Arg Ser Gly Gly Asn Leu Glu Val Met Gly Leu Met Leu Gly
 50 55 60

Lys Val Asp Gly Glu Thr Met Ile Ile Met Asp Ser Phe Ala Leu Pro
 65 70 75 80

Val Glu Gly Thr Glu Thr Arg Val Asn Ala Gln Ala Ala Tyr Glu
 85 90 95

Tyr Met Ala Ala Tyr Ile Glu Asn Ala Lys Gln Val Gly Arg Leu Glu
 100 105 110

Asn Ala Ile Gly Trp Tyr His Ser His Pro Gly Tyr Gly Cys Trp Leu
 115 120 125

Ser Gly Ile Asp Val Ser Thr Gln Met Leu Asn Gln Gln Phe Gln Glu
 130 135 140

Pro Phe Val Ala Val Val Ile Asp Pro Thr Arg Thr Ile Ser Ala Gly
 145 150 155 160

Lys Val Asn Leu Gly Ala Phe Arg Thr Tyr Pro Lys Gly Tyr Lys Pro
 165 170 175

Pro Asp Glu Gly Pro Ser Glu Tyr Gln Thr Ile Pro Leu Asn Lys Ile
 180 185 190

Glu Asp Phe Gly Val His Cys Lys Gln Tyr Tyr Ala Leu Glu Val Ser
 195 200 205

Tyr Phe Lys Ser Ser Leu Asp Arg Lys Leu Leu Glu Leu Leu Trp Asn
 210 215 220

Lys Tyr Trp Val Asn Thr Leu Ser Ser Ser Ser Leu Leu Thr Asn Ala
 225 230 235 240

Asp Tyr Thr Thr Gly Gln Val Phe Asp Leu Ser Glu Lys Leu Glu Gln
 245 250 255

Ser Glu Ala Gln Leu Gly Arg Gly Ser Phe Met Leu Gly Leu Glu Thr
 260 265 270

His Asp Arg Lys Ser Glu Asp Lys Leu Ala Lys Ala Thr Arg Asp Ser
 275 280 285

Cys Lys Thr Thr Ile Glu Ala Ile His Gly Leu Met Ser Gln Val Ile
 290 295 300

Lys Asp Lys Leu Phe Asn Gln Ile Asn Ile Ser
 305 310 315

<210> 294

<211> 11

<212> PRT

<213> Shigella Flexneri

<400> 294

Leu Gly His Leu Gly Arg Ser Phe Gly Phe Leu
 1 5 10

<210> 295

<211> 50

<212> PRT

<213> Shigella Flexneri

<220>

<221> MISC_FEATURE

<222> (15)..(49)

<223> MISC_FEATURE

<400> 295

Ala	Asn	Met	Val	Ala	Ile	Asp	Ser	Leu	Leu	Cys	Ile	Arg	Ser	Xaa	Xaa
1				5					10					15	

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
			20					25					30		

Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
		35					40					45			

Xaa	Glu
	50

<210> 296

<211> 494

<212> PRT

<213> Shigella Flexneri

<400> 296

Gly	Glu	Arg	Thr	Glu	Cys	Ala	Glu	Pro	Pro	Arg	Asp	Glu	Pro	Pro	Ala
1				5					10					15	

Asp	Gly	Ala	Leu	Lys	Arg	Ala	Glu	Glu	Leu	Lys	Thr	Gln	Ala	Asn	Asp
			20					25					30		

Tyr	Phe	Lys	Ala	Lys	Asp	Tyr	Glu	Asn	Ala	Ile	Lys	Phe	Tyr	Ser	Gln
		35					40					45			

Ala	Ile	Glu	Leu	Asn	Pro	Ser	Asn	Ala	Ile	Tyr	Tyr	Gly	Asn	Arg	Ser
	50						55				60				

Leu	Ala	Tyr	Leu	Arg	Thr	Glu	Cys	Tyr	Gly	Tyr	Ala	Leu	Gly	Asp	Ala
65					70					75				80	

Thr	Arg	Ala	Ile	Glu	Leu	Asp	Lys	Lys	Tyr	Ile	Lys	Gly	Tyr	Tyr	Arg
				85					90					95	

Arg Ala Ala Ser Asn Met Ala Leu Gly Lys Phe Arg Ala Ala Leu Arg
 100 105 110

Asp Tyr Glu Thr Val Val Lys Val Lys Pro His Asp Lys Asp Ala Lys
 115 120 125

Met Lys Tyr Gln Glu Cys Asn Lys Ile Val Lys Gln Lys Ala Phe Glu
 130 135 140

Arg Ala Ile Ala Gly Asp Glu His Lys Arg Ser Val Val Asp Ser Leu
 145 150 155 160

Asp Ile Glu Ser Met Thr Ile Glu Asp Glu Tyr Ser Gly Pro Lys Leu
 165 170 175

Glu Asp Gly Lys Val Thr Ile Ser Phe Met Lys Glu Leu Met Gln Trp
 180 185 190

Tyr Lys Asp Gln Lys Lys Leu His Arg Lys Cys Ala Tyr Gln Ile Leu
 195 200 205

Val Gln Val Lys Glu Val Leu Ser Lys Leu Ser Thr Leu Val Glu Thr
 210 215 220

Thr Leu Lys Glu Thr Glu Lys Ile Thr Val Cys Gly Asp Thr His Gly
 225 230 235 240

Gln Phe Tyr Asp Leu Leu Asn Ile Phe Glu Leu Asn Gly Leu Pro Ser
 245 250 255

Glu Thr Asn Pro Tyr Ile Phe Asn Gly Asp Phe Val Asp Arg Gly Ser
 260 265 270

Phe Ser Val Glu Val Ile Leu Thr Leu Phe Gly Phe Lys Leu Leu Tyr
 275 280 285

Pro Asp His Phe His Leu Leu Arg Gly Asn His Glu Thr Asp Asn Met
 290 295 300

Asn Gln Ile Tyr Gly Phe Glu Gly Glu Val Lys Ala Lys Tyr Thr Ala
 305 310 315 320

Gln Met Tyr Glu Leu Phe Ser Glu Val Phe Glu Trp Leu Pro Leu Ala
 325 330 335

Gln Cys Ile Asn Gly Lys Val Leu Ile Met His Gly Gly Leu Phe Ser
 340 345 350

Glu Asp Gly Val Thr Leu Asp Asp Ile Arg Lys Ile Glu Arg Asn Arg
 355 360 365

Gln Pro Pro Asp Ser Gly Pro Met Cys Asp Leu Leu Trp Ser Asp Pro
 370 375 380

Gln Pro Gln Asn Gly Arg Ser Ile Ser Lys Arg Gly Val Ser Cys Gln
 385 390 395 400

Phe Gly Pro Asp Val Thr Lys Ala Phe Leu Glu Glu Asn Asn Leu Asp
 405 410 415

Tyr Ile Ile Arg Ser His Glu Val Lys Ala Glu Gly Tyr Glu Val Ala
 420 425 430

His Gly Gly Arg Cys Val Thr Val Phe Ser Ala Pro Asn Tyr Cys Asp
 435 440 445

Gln Met Gly Asn Lys Ala Ser Tyr Ile His Leu Gln Gly Ser Asp Leu
 450 455 460

Arg Pro Gln Phe His Gln Phe Thr Ala Val Pro His Pro Asn Val Lys
 465 470 475 480

Pro Met Ala Tyr Ala Asn Thr Leu Leu Gln Leu Gly Met Met
 485 490

<210> 297

<211> 98

<212> PRT

<213> Shigella Flexneri

<400> 297

Leu Thr Ser Glu Ile Pro Gln Leu Asn Asp Trp Arg Leu Ser Pro Thr
 1 5 10 15

His Ser Arg His Cys Gln Glu Arg Leu Lys Thr Ser Gly Asp His Phe
 20 25 30

Phe Ser Lys Gln Phe Phe Arg Trp Ile Leu Thr Leu Ser Leu Arg Leu
 35 40 45

Glu Cys Ser Gly Ala Val Ser Ala His Tyr Thr Leu Pro Leu Leu Ala
 50 55 60

Pro Ala Arg Met Tyr Phe Ser Phe Ser Pro Cys Leu Leu Cys Arg Asp
 65 70 75 80

His Ser Leu Cys Pro Cys Ile His Val Gly His Gln Ser His Gln Ser
 85 90 95

Thr Lys

<210> 298

<211> 319

<212> PRT

<213> Shigella Flexneri

<400> 298

Ala Val Leu Arg Gly Asp Ala Glu Ala Val Lys Gly Ile Gly Ser Gly
 1 5 10 15

Lys Val Leu Lys Ser Gly Pro Gln Asp His Val Phe Ile Tyr Phe Thr
 20 25 30

Asp His Gly Ser Thr Gly Ile Leu Val Phe Pro Asn Glu Asp Leu His
 35 40 45

Val Lys Asp Leu Asn Glu Thr Ile His Tyr Met Tyr Lys His Lys Met
 50 55 60

Tyr Arg Lys Met Val Phe Tyr Ile Glu Ala Cys Glu Ser Gly Ser Met

65		70		75		80									
Met	Asn	His	Leu	Pro	Asp	Asn	Ile	Asn	Val	Tyr	Ala	Thr	Thr	Ala	Ala
				85					90					95	
Asn	Pro	Arg	Glu	Ser	Ser	Tyr	Ala	Cys	Tyr	Tyr	Asp	Glu	Lys	Arg	Ser
			100					105					110		
Thr	Tyr	Leu	Gly	Asp	Trp	Tyr	Ser	Val	Asn	Trp	Met	Glu	Asp	Ser	Asp
		115					120					125			
Val	Glu	Asp	Leu	Thr	Lys	Glu	Thr	Leu	His	Lys	Gln	Tyr	His	Leu	Val
	130					135					140				
Lys	Ser	His	Thr	Asn	Thr	Ser	His	Val	Met	Gln	Tyr	Gly	Asn	Lys	Thr
145					150					155					160
Ile	Ser	Thr	Met	Lys	Val	Met	Gln	Phe	Gln	Gly	Met	Lys	Arg	Lys	Ala
				165					170					175	
Ser	Ser	Pro	Val	Pro	Leu	Pro	Pro	Val	Thr	His	Leu	Asp	Leu	Thr	Pro
			180					185					190		
Ser	Pro	Asp	Val	Pro	Leu	Thr	Ile	Met	Lys	Arg	Lys	Leu	Met	Asn	Thr
		195					200					205			
Asn	Asp	Leu	Glu	Glu	Ser	Arg	Gln	Leu	Thr	Glu	Glu	Ile	Gln	Arg	His
	210					215					220				
Leu	Asp	Ala	Arg	His	Leu	Ile	Glu	Lys	Ser	Val	Arg	Lys	Ile	Val	Ser
225					230					235				240	
Leu	Leu	Ala	Ala	Ser	Glu	Ala	Glu	Val	Glu	Gln	Leu	Leu	Ser	Glu	Arg
				245					250					255	
Ala	Pro	Leu	Thr	Gly	His	Ser	Cys	Tyr	Pro	Glu	Ala	Leu	Leu	His	Phe
			260					265					270		
Arg	Thr	His	Cys	Phe	Asn	Trp	His	Ser	Pro	Thr	Tyr	Glu	Tyr	Ala	Leu
		275					280					285			
Arg	His	Leu	Tyr	Val	Leu	Val	Asn	Leu	Cys	Glu	Lys	Pro	Tyr	Pro	Leu
	290						295				300				

His Arg Ile Lys Leu Ser Met Asp His Val Cys Leu Gly His Tyr
 305 310 315

<210> 299

<211> 289

<212> PRT

<213> Shigella Flexneri

<400> 299

Thr Lys Asp His His Tyr Phe Lys Tyr Cys Lys Ile Ser Ala Leu Ala
 1 5 10 15

Leu Leu Lys Met Val Met His Ala Arg Ser Gly Gly Asn Leu Glu Val
 20 25 30

Met Gly Leu Met Leu Gly Lys Val Asp Gly Glu Thr Met Ile Ile Met
 35 40 45

Asp Ser Phe Ala Leu Pro Val Glu Gly Thr Glu Thr Arg Val Asn Ala
 50 55 60

Gln Ala Ala Ala Tyr Glu Tyr Met Ala Ala Tyr Ile Glu Asn Ala Lys
 65 70 75 80

Gln Val Gly Arg Leu Glu Asn Ala Ile Gly Trp Tyr His Ser His Pro
 85 90 95

Gly Tyr Gly Cys Trp Leu Ser Gly Ile Asp Val Ser Thr Gln Met Leu
 100 105 110

Asn Gln Gln Phe Gln Glu Pro Phe Val Ala Val Val Ile Asp Pro Thr
 115 120 125

Arg Thr Ile Ser Ala Gly Lys Val Asn Leu Gly Ala Phe Arg Thr Tyr
 130 135 140

Pro Lys Gly Tyr Lys Pro Pro Asp Glu Gly Pro Ser Glu Tyr Gln Thr
 145 150 155 160

Ile Pro Leu Asn Lys Ile Glu Asp Phe Gly Val His Cys Lys Gln Tyr
 165 170 175

Tyr Ala Leu Glu Val Ser Tyr Phe Lys Ser Ser Leu Asp Arg Lys Leu
 180 185 190

Leu Glu Leu Leu Trp Asn Lys Tyr Trp Val Asn Thr Leu Ser Ser Ser
 195 200 205

Ser Leu Leu Thr Asn Ala Asp Tyr Thr Thr Gly Gln Val Phe Asp Leu
 210 215 220

Ser Glu Lys Leu Glu Gln Ser Glu Ala Gln Leu Gly Arg Gly Ser Phe
 225 230 235 240

Met Leu Gly Leu Glu Thr His Asp Arg Lys Ser Glu Asp Lys Leu Ala
 245 250 255

Lys Ala Thr Arg Asp Ser Cys Lys Thr Thr Ile Glu Ala Ile His Gly
 260 265 270

Leu Met Ser Gln Val Ile Lys Asp Lys Leu Phe Asn Gln Ile Asn Ile
 275 280 285

Ser

<210> 300

<211> 1094

<212> PRT

<213> Shigella Flexneri

<400> 300

Gly Asn Lys Ala Cys Ser Pro Cys Ser Ser Gln Ser Ser Ser Gly
 1 5 10 15

Ile Cys Thr Asp Phe Trp Asp Leu Leu Val Lys Leu Asp Asn Met Asn
 20 25 30

Val Ser Arg Lys Gly Lys Asn Ser Val Lys Ser Val Pro Val Ser Ala
35 40 45

Gly Gly Glu Gly Glu Thr Ser Pro Tyr Ser Leu Glu Ala Ser Pro Leu
50 55 60

Gly Gln Leu Met Asn Met Leu Ser His Pro Val Ile Arg Arg Ser Ser
65 70 75 80

Leu Leu Thr Glu Lys Leu Leu Arg Leu Leu Ser Leu Ile Ser Ile Ala
85 90 95

Leu Pro Glu Asn Lys Val Ser Glu Ala Gln Ala Asn Ser Gly Ser Gly
100 105 110

Ala Ser Ser Thr Thr Thr Ala Thr Ser Thr Thr Ser Thr Thr Thr Thr
115 120 125

Thr Ala Ala Ser Thr Thr Pro Thr Pro Pro Thr Ala Pro Thr Pro Val
130 135 140

Thr Ser Ala Pro Ala Leu Val Ala Ala Thr Ala Ile Ser Thr Ile Val
145 150 155 160

Val Ala Ala Ser Thr Thr Val Thr Thr Pro Thr Thr Ala Thr Thr Thr
165 170 175

Val Ser Ile Ser Pro Thr Thr Lys Gly Ser Lys Ser Pro Ala Lys Val
180 185 190

Ser Asp Gly Gly Ser Ser Ser Thr Asp Phe Lys Met Val Ser Ser Gly
195 200 205

Leu Thr Glu Asn Gln Leu Gln Leu Ser Val Glu Val Leu Thr Ser His
210 215 220

Ser Cys Ser Glu Glu Gly Leu Glu Asp Ala Ala Asn Val Leu Leu Gln
225 230 235 240

Leu Ser Arg Gly Asp Ser Gly Thr Arg Asp Thr Val Leu Lys Leu Leu
245 250 255

Leu Asn Gly Ala Arg His Leu Gly Tyr Thr Leu Cys Lys Gln Ile Gly

260

265

270

Thr Leu Leu Ala Glu Leu Arg Glu Tyr Asn Leu Glu Gln Gln Arg Arg
 275 280 285

Ala Gln Cys Glu Thr Leu Ser Pro Asp Gly Leu Pro Glu Glu Gln Pro
 290 295 300

Gln Thr Thr Lys Leu Lys Gly Lys Met Gln Ser Arg Phe Asp Met Ala
 305 310 315 320

Glu Asn Val Val Ile Val Ala Ser Gln Lys Arg Pro Leu Gly Gly Arg
 325 330 335

Glu Leu Gln Leu Pro Ser Met Ser Met Leu Thr Ser Lys Thr Ser Thr
 340 345 350

Gln Lys Phe Phe Leu Arg Val Leu Gln Val Ile Ile Gln Leu Arg Asp
 355 360 365

Asp Thr Arg Arg Ala Asn Lys Lys Ala Lys Gln Thr Gly Arg Leu Gly
 370 375 380

Ser Ser Gly Leu Gly Ser Ala Ser Ser Ile Gln Ala Ala Val Arg Gln
 385 390 395 400

Leu Glu Ala Glu Ala Asp Ala Ile Ile Gln Met Val Arg Glu Gly Gln
 405 410 415

Arg Ala Arg Arg Gln Gln Gln Ala Ala Thr Ser Glu Ser Ser Gln Ser
 420 425 430

Glu Ala Ser Val Arg Arg Glu Glu Ser Pro Met Asp Val Asp Gln Pro
 435 440 445

Ser Pro Ser Ala Gln Asp Thr Gln Ser Ile Ala Ser Asp Gly Thr Pro
 450 455 460

Gln Gly Glu Lys Glu Lys Glu Glu Arg Pro Pro Glu Leu Pro Leu Leu
 465 470 475 480

Ser Glu Gln Leu Ser Leu Asp Glu Leu Trp Asp Met Leu Gly Glu Cys
 485 490 495

Leu Lys Glu Leu Glu Glu Ser His Asp Gln His Ala Val Leu Val Leu
 500 505 510

Gln Pro Ala Val Glu Ala Phe Phe Leu Val His Ala Thr Glu Arg Glu
 515 520 525

Ser Lys Pro Pro Val Arg Asp Thr Arg Glu Ser Gln Leu Ala His Ile
 530 535 540

Lys Asp Glu Pro Pro Pro Leu Ser Pro Ala Pro Leu Thr Pro Ala Thr
 545 550 555 560

Pro Ser Ser Leu Asp Pro Phe Phe Ser Arg Glu Pro Ser Ser Met His
 565 570 575

Ile Ser Ser Ser Leu Pro Pro Asp Thr Gln Lys Phe Leu Arg Phe Ala
 580 585 590

Glu Thr His Arg Thr Val Leu Asn Gln Ile Leu Arg Gln Ser Thr Thr
 595 600 605

His Leu Ala Asp Gly Pro Phe Ala Val Leu Val Asp Tyr Ile Arg Val
 610 615 620

Leu Asp Phe Asp Val Lys Arg Lys Tyr Phe Arg Gln Glu Leu Glu Arg
 625 630 635 640

Leu Asp Glu Gly Leu Arg Lys Glu Asp Met Ala Val His Val Arg Arg
 645 650 655

Asp His Val Phe Glu Asp Ser Tyr Arg Glu Leu His Arg Lys Ser Pro
 660 665 670

Glu Glu Met Lys Asn Arg Leu Tyr Ile Val Phe Glu Gly Glu Glu Gly
 675 680 685

Gln Asp Ala Gly Gly Leu Leu Arg Glu Trp Tyr Met Ile Ile Ser Arg
 690 695 700

Glu Met Phe Asn Pro Met Tyr Ala Leu Phe Arg Thr Ser Pro Gly Asp
 705 710 715 720

Arg Val Thr Tyr Thr Ile Asn Pro Ser Ser His Cys Asn Pro Asn His
725 730 735

Leu Ser Tyr Phe Lys Phe Val Gly Arg Ile Val Ala Lys Ala Val Tyr
740 745 750

Asp Asn Arg Leu Leu Glu Cys Tyr Phe Thr Arg Ser Phe Tyr Lys His
755 760 765

Ile Leu Gly Lys Ser Val Arg Tyr Thr Asp Met Glu Ser Glu Asp Tyr
770 775 780

His Phe Tyr Gln Gly Leu Val Tyr Leu Leu Glu Asn Asp Val Ser Thr
785 790 795 800

Leu Gly Tyr Asp Leu Thr Phe Ser Thr Glu Val Gln Glu Phe Gly Val
805 810 815

Cys Glu Val Arg Asp Leu Lys Pro Asn Gly Ala Asn Ile Leu Val Thr
820 825 830

Glu Glu Asn Lys Lys Glu Tyr Val His Leu Val Cys Gln Met Arg Met
835 840 845

Thr Gly Ala Ile Arg Lys Gln Leu Ala Ala Phe Leu Glu Gly Phe Tyr
850 855 860

Glu Ile Ile Pro Lys Arg Leu Ile Ser Ile Phe Thr Glu Gln Glu Leu
865 870 875 880

Glu Leu Leu Ile Ser Gly Leu Pro Thr Ile Asp Ile Asp Asp Leu Lys
885 890 895

Ser Asn Thr Glu Tyr His Lys Tyr Gln Ser Asn Ser Ile Gln Ile Gln
900 905 910

Trp Phe Trp Arg Ala Leu Arg Ser Phe Asp Gln Ala Asp Arg Ala Lys
915 920 925

Phe Leu Gln Phe Val Thr Gly Thr Ser Lys Val Pro Leu Gln Gly Phe
930 935 940

Ala Ala Leu Glu Gly Met Asn Gly Ile Gln Lys Phe Gln Ile His Arg
 945 950 955 960

Asp Asp Arg Ser Thr Asp Arg Leu Pro Ser Ala His Thr Cys Phe Asn
 965 970 975

Gln Leu Asp Leu Pro Ala Tyr Glu Ser Phe Glu Lys Ser Ala Thr Cys
 980 985 990

Tyr Cys Trp Leu Ser Arg Ser Ala Leu Lys Ala Leu Gly Trp Pro Asn
 995 1000 1005

Lys Ala Leu Pro Asn Ser Val Gly Phe Phe Leu Pro Leu Leu Asp
 1010 1015 1020

Leu Gly Arg Gly Glu Leu Lys Lys Glu Pro Glu Arg Asn Cys Gln
 1025 1030 1035

Lys Pro Ile Asn Glu Ile His Gln Leu Thr Val Cys Val Pro Ala
 1040 1045 1050

Ala Pro Ser Ser Pro Ala His Thr Cys Ser Ser Ser His Ser Leu
 1055 1060 1065

Pro Ala Ala Cys Phe Leu Thr Phe Ser Pro Leu Ser Met Pro Ser
 1070 1075 1080

Met Ile Pro Thr Pro Cys Val Leu Lys Arg Gln
 1085 1090

<210> 301

<211> 158

<212> PRT

<213> Shigella Flexneri

<400> 301

Thr Tyr Thr Pro Gly Asp Cys Pro Asn Phe Ala Ala Pro Arg Arg Glu
 1 5 10 15

Val Ala Pro Pro Tyr Gln Gly Ala Asp Pro Ile Leu Ala Thr Ala Leu

20

25

30

Ala Ser Asp Pro Ile Pro Asn Pro Leu Gln Lys Trp Glu Asp Ser Ala
 35 40 45

His Lys Pro Gln Ser Leu Asp Thr Asp Asp Pro Ala Thr Leu Tyr Ala
 50 55 60

Val Val Glu Asn Val Pro Pro Leu Arg Trp Lys Glu Phe Val Arg Arg
 65 70 75 80

Leu Gly Leu Ser Asp His Glu Ile Asp Arg Leu Glu Leu Gln Asn Gly
 85 90 95

Arg Cys Leu Arg Glu Ala Gln Tyr Ser Met Leu Ala Thr Trp Arg Arg
 100 105 110

Arg Thr Pro Arg Arg Glu Ala Thr Leu Glu Leu Leu Gly Arg Val Leu
 115 120 125

Arg Asp Met Asp Leu Leu Gly Cys Leu Glu Asp Ile Glu Glu Ala Leu
 130 135 140

Cys Gly Pro Ala Ala Leu Pro Pro Ala Pro Ser Leu Leu Arg
 145 150 155

<210> 302

<211> 405

<212> PRT

<213> Shigella Flexneri

<400> 302

Ala Thr Arg Ser Ser Ala Val Arg Leu Arg Ser Ser Val Pro Gly Val
 1 5 10 15

Arg Leu Leu Gln Asp Ser Val Asp Phe Ser Leu Ala Asp Ala Ile Asn
 20 25 30

Thr Glu Phe Lys Asn Thr Arg Thr Asn Glu Lys Val Glu Leu Gln Glu
 35 40 45

Leu Asn Asp Arg Phe Ala Asn Tyr Ile Asp Lys Val Arg Phe Leu Glu
50 55 60

Gln Gln Asn Lys Ile Leu Leu Ala Glu Leu Glu Gln Leu Lys Gly Gln
65 70 75 80

Gly Lys Ser Arg Leu Gly Asp Leu Tyr Glu Glu Glu Met Arg Glu Leu
85 90 95

Arg Arg Gln Val Asp Gln Leu Thr Asn Asp Lys Ala Arg Val Glu Val
100 105 110

Glu Arg Asp Asn Leu Ala Glu Asp Ile Met Arg Leu Arg Glu Lys Leu
115 120 125

Gln Glu Glu Met Leu Gln Arg Glu Glu Ala Glu Asn Thr Leu Gln Ser
130 135 140

Phe Arg Gln Asp Val Asp Asn Ala Ser Leu Ala Arg Leu Asp Leu Glu
145 150 155 160

Arg Lys Val Glu Ser Leu Gln Glu Glu Ile Ala Phe Leu Lys Lys Leu
165 170 175

His Glu Glu Glu Ile Gln Glu Leu Gln Ala Gln Ile Gln Glu Gln His
180 185 190

Val Gln Ile Asp Val Asp Val Ser Lys Pro Asp Leu Thr Ala Ala Leu
195 200 205

Arg Asp Val Arg Gln Gln Tyr Glu Ser Val Ala Ala Lys Asn Leu Gln
210 215 220

Glu Ala Glu Glu Trp Tyr Lys Ser Lys Phe Ala Asp Leu Ser Glu Ala
225 230 235 240

Ala Asn Arg Asn Asn Asp Ala Leu Arg Gln Ala Lys Gln Glu Ser Thr
245 250 255

Glu Tyr Arg Arg Gln Val Gln Ser Leu Thr Cys Glu Val Asp Ala Leu
260 265 270

Lys Gly Thr Asn Glu Ser Leu Glu Arg Gln Met Arg Glu Met Glu Glu
 275 280 285

Asn Phe Ala Val Glu Ala Ala Asn Tyr Gln Asp Thr Ile Gly Arg Leu
 290 295 300

Gln Asp Glu Ile Gln Asn Met Lys Glu Glu Met Ala Arg His Leu Arg
 305 310 315 320

Glu Tyr Gln Asp Leu Leu Asn Val Lys Met Ala Leu Asp Ile Glu Ile
 325 330 335

Ala Thr Tyr Arg Lys Leu Leu Glu Gly Glu Glu Ser Arg Ile Ser Leu
 340 345 350

Pro Leu Pro Asn Phe Ser Ser Leu Asn Leu Arg Glu Thr Asn Leu Asp
 355 360 365

Ser Leu Pro Leu Val Asp Thr His Ser Lys Arg Thr Phe Leu Ile Lys
 370 375 380

Thr Val Glu Thr Arg Asp Gly Gln Val Ile Asn Glu Thr Ser Gln His
 385 390 395 400

His Asp Asp Leu Glu
 405

<210> 303

<211> 22

<212> PRT

<213> Shigella Flexneri

<220>

<221> MISC_FEATURE

<222> (2) .. (2)

<223> MISC_FEATURE

<220>

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<222> (6) .. (8)

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<220>

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<222> (11) .. (11)

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<220>

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<222> (18) .. (18)

<223> MISC_FEATURE

<400> 303

Pro	Xaa	Tyr	Gly	Asp	Xaa	Xaa	Xaa	Gly	Pro	Xaa	Trp	Lys	Asp	His	Leu
1				5					10					15	

Met	Xaa	Arg	Cys	Lys	Phe
			20		

<210> 304

<211> 106

<212> PRT

<213> Shigella Flexneri

<220>

<221> MISC_FEATURE

<222> (3) .. (3)

<223> MISC_FEATURE

<222> (25) .. (25)

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<220>

<221> MISC_FEATURE

<222> (30) .. (31)

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<221> MISC_FEATURE

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<221> MISC_FEATURE

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<222> (52) .. (52)

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<222> (56) .. (56)

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<222> (63) .. (63)

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<220>

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<220>

<221> MISC_FEATURE

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<221> MISC_FEATURE

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<222> (102) .. (102)

<223> MISC_FEATURE

<220>

<221> MISC_FEATURE

<222> (106) .. (106)

<223> MISC_FEATURE

<400> 304

Ser	Phe	Xaa	Asp	Xaa	Glu	Lys	Xaa	Asn	Ile	Cys	Leu	Gly	Ala	Xaa	Xaa
1				5					10					15	

Ile Phe Xaa Val Ala Xaa Arg His Xaa Leu Leu Val Leu Xaa Xaa Leu
 20 25 30

Xaa Xaa Xaa Gly Leu Gln His Gly Gly Xaa Xaa Pro Xaa Leu Pro Xaa
 35 40 45

Arg Pro Ala Xaa Gly Leu Leu Xaa Val Ser Cys Pro Arg Trp Xaa Gly
 50 55 60

Ala Xaa Ala Gly Pro Leu Xaa Tyr Ala Ser Xaa Ile Pro Thr Leu Val
 65 70 75 80

Val Cys Thr Arg Ser Gln His Xaa Met His Val Cys Xaa Leu Leu Tyr
 85 90 95

Arg Arg Tyr Xaa Arg Xaa Ala Ser Leu Xaa
 100 105

<210> 305

<211> 545

<212> PRT

<213> Shigella Flexneri

<400> 305

Ala Ala Ala Thr Asn His Thr Thr Asp Asn Gly Val Gly Pro Glu Glu
 1 5 10 15

Glu Ser Val Asp Pro Asn Gln Tyr Tyr Lys Ile Arg Ser Gln Ala Ile
 20 25 30

His Gln Leu Lys Val Asn Gly Glu Asp Pro Tyr Pro His Lys Phe His
 35 40 45

Val Asp Ile Ser Leu Thr Asp Phe Ile Gln Lys Tyr Ser His Leu Gln
 50 55 60

Pro Gly Asp His Leu Thr Asp Ile Thr Leu Lys Val Ala Gly Arg Ile
 65 70 75 80

His Ala Lys Arg Ala Ser Gly Gly Lys Leu Ile Phe Tyr Asp Leu Arg
85 90 95

Gly Glu Gly Val Lys Leu Gln Val Met Ala Asn Ser Arg Asn Tyr Lys
100 105 110

Ser Glu Glu Glu Phe Ile His Ile Asn Asn Lys Leu Arg Arg Gly Asp
115 120 125

Ile Ile Gly Val Gln Gly Asn Pro Gly Lys Thr Lys Lys Gly Glu Leu
130 135 140

Ser Ile Ile Pro Tyr Glu Ile Thr Leu Leu Ser Pro Cys Leu His Met
145 150 155 160

Leu Pro His Leu His Phe Gly Leu Lys Asp Lys Glu Thr Arg Tyr Arg
165 170 175

Gln Arg Tyr Leu Asp Leu Ile Leu Asn Asp Phe Val Arg Gln Lys Phe
180 185 190

Ile Ile Arg Ser Lys Ile Ile Thr Tyr Ile Arg Ser Phe Leu Asp Glu
195 200 205

Leu Gly Phe Leu Glu Ile Glu Thr Pro Met Met Asn Ile Ile Pro Gly
210 215 220

Gly Ala Val Ala Lys Pro Phe Ile Thr Tyr His Asn Glu Leu Asp Met
225 230 235 240

Asn Leu Tyr Met Arg Ile Ala Pro Glu Leu Tyr His Lys Met Leu Val
245 250 255

Val Gly Gly Ile Asp Arg Val Tyr Glu Ile Gly Arg Gln Phe Arg Asn
260 265 270

Glu Gly Ile Asp Leu Thr His Asn Pro Glu Phe Thr Thr Cys Glu Phe
275 280 285

Tyr Met Ala Tyr Ala Asp Tyr His Asp Leu Met Glu Ile Thr Glu Lys
290 295 300

Met Val Ser Gly Met Val Lys His Ile Thr Gly Ser Tyr Lys Val Thr

305		310		315		320
Tyr His Pro Asp Gly Pro Glu Gly Gln Ala Tyr Asp Val Asp Phe Thr						
	325			330		335
Pro Pro Phe Arg Arg Ile Asn Met Val Glu Glu Leu Glu Lys Ala Leu						
	340			345		350
Gly Met Lys Leu Pro Glu Thr Asn Leu Phe Glu Thr Glu Glu Thr Arg						
	355			360		365
Lys Ile Leu Asp Asp Ile Cys Val Ala Lys Ala Val Glu Cys Pro Pro						
	370			375		380
Pro Arg Thr Thr Ala Arg Leu Leu Asp Lys Leu Val Gly Glu Phe Leu						
	385			390		395
Glu Val Thr Cys Ile Asn Pro Thr Phe Ile Cys Asp His Pro Gln Ile						
	405			410		415
Met Ser Pro Leu Ala Lys Trp His Arg Ser Lys Glu Gly Leu Thr Glu						
	420			425		430
Arg Phe Glu Leu Phe Val Met Lys Lys Glu Ile Cys Asn Ala Tyr Thr						
	435			440		445
Glu Leu Asn Asp Pro Met Arg Gln Arg Gln Leu Phe Glu Glu Gln Ala						
	450			455		460
Lys Ala Lys Ala Ala Gly Asp Asp Glu Ala Met Phe Ile Asp Glu Asn						
	465			470		475
Phe Cys Thr Ala Leu Glu Tyr Gly Leu Pro Pro Thr Ala Gly Trp Gly						
	485			490		495
Met Gly Ile Asp Arg Val Ala Met Phe Leu Thr Asp Ser Asn Asn Ile						
	500			505		510
Lys Glu Val Leu Leu Phe Pro Ala Met Lys Pro Glu Asp Lys Lys Glu						
	515			520		525
Asn Val Ala Thr Thr Asp Thr Leu Glu Ser Thr Thr Val Gly Thr Ser						
	530			535		540

Val
545

<210> 306

<211> 535

<212> PRT

<213> Shigella Flexneri

<400> 306

Leu Lys Pro Glu Phe Met Arg Arg Pro Asp Lys Ser Phe Asp Pro Phe
1 5 10 15

Thr Glu Val Ile Val Asp Gly Ile Val Ala Asn Ala Leu Arg Val Lys
20 25 30

Val Ile Ser Gly Gln Phe Leu Ser Asp Arg Lys Val Gly Ile Tyr Val
35 40 45

Glu Val Asp Met Phe Gly Leu Pro Val Asp Thr Arg Arg Lys Tyr Arg
50 55 60

Thr Arg Thr Ser Gln Gly Asn Ser Phe Asn Pro Val Trp Asp Glu Glu
65 70 75 80

Pro Phe Asp Phe Pro Lys Val Val Leu Pro Thr Leu Ala Ser Leu Arg
85 90 95

Ile Ala Ala Phe Glu Glu Gly Gly Lys Phe Val Gly His Arg Ile Leu
100 105 110

Pro Val Ser Ala Ile Arg Ser Gly Tyr His Tyr Val Cys Leu Arg Asn
115 120 125

Glu Ala Asn Gln Pro Leu Cys Leu Pro Ala Leu Leu Ile Tyr Thr Glu
130 135 140

Ala Ser Asp Tyr Ile Pro Asp Asp His Gln Asp Tyr Ala Glu Ala Leu
145 150 155 160

Ile Asn Pro Ile Lys His Val Ser Leu Met Asp Gln Arg Ala Arg Gln
 165 170 175

Leu Ala Ala Leu Ile Gly Glu Ser Glu Ala Gln Ala Gly Gln Glu Thr
 180 185 190

Cys Gln Asp Thr Gln Ser Gln Gln Leu Gly Ser Gln Pro Ser Ser Asn
 195 200 205

Pro Thr Pro Ser Pro Leu Asp Ala Ser Pro Arg Arg Pro Pro Gly Pro
 210 215 220

Thr Thr Ser Pro Ala Ser Thr Ser Leu Ser Ser Pro Gly Gln Arg Asp
 225 230 235 240

Asp Leu Ile Ala Ser Ile Leu Ser Glu Val Ala Pro Thr Pro Leu Asp
 245 250 255

Glu Leu Arg Gly His Lys Ala Leu Val Lys Leu Arg Ser Arg Gln Glu
 260 265 270

Arg Asp Leu Arg Glu Leu Arg Lys Lys His Gln Arg Lys Ala Val Thr
 275 280 285

Leu Thr Arg Arg Leu Leu Asp Gly Leu Ala Gln Ala Gln Ala Glu Gly
 290 295 300

Arg Cys Arg Leu Arg Pro Gly Ala Leu Gly Gly Ala Ala Asp Val Glu
 305 310 315 320

Asp Thr Lys Glu Gly Glu Asp Glu Ala Lys Arg Tyr Gln Glu Phe Gln
 325 330 335

Asn Arg Gln Val Gln Ser Leu Leu Glu Leu Arg Glu Ala Gln Val Asp
 340 345 350

Ala Glu Ala Gln Arg Arg Leu Glu His Leu Arg Gln Ala Leu Gln Arg
 355 360 365

Leu Arg Glu Val Val Leu Asp Ala Asn Thr Thr Gln Phe Lys Arg Leu
 370 375 380

Lys Glu Met Asn Glu Arg Glu Lys Lys Glu Leu Gln Lys Ile Leu Asp
385 390 395 400

Arg Lys Arg His Asn Ser Ile Ser Glu Ala Lys Met Arg Asp Lys His
405 410 415

Lys Lys Glu Ala Glu Leu Thr Glu Ile Asn Arg Arg His Ile Thr Glu
420 425 430

Ser Val Asn Ser Ile Arg Arg Leu Glu Glu Ala Gln Lys Gln Arg His
435 440 445

Asp Arg Leu Val Ala Gly Gln Gln Gln Val Leu Gln Gln Leu Ala Glu
450 455 460

Glu Glu Pro Lys Leu Leu Ala Gln Leu Ala Gln Glu Cys Gln Glu Gln
465 470 475 480

Arg Ala Arg Leu Pro Gln Glu Ile Arg Arg Ser Leu Leu Gly Glu Met
485 490 495

Pro Glu Gly Leu Gly Asp Gly Pro Leu Val Ala Cys Ala Ser Asn Gly
500 505 510

His Ala Pro Gly Ser Ser Gly His Leu Ser Gly Ala Asp Ser Glu Ser
515 520 525

Gln Glu Glu Asn Thr Gln Leu
530 535

<210> 307

<211> 500

<212> PRT

<213> Shigella Flexneri

<400> 307

Met Gly Ile Gly Leu Ser Ala Gln Gly Val Asn Met Asn Arg Leu Pro
1 5 10 15

Gly Trp Asp Lys His Ser Tyr Gly Tyr His Gly Asp Asp Gly His Ser

20

25

30

Phe Cys Ser Ser Gly Thr Gly Gln Pro Tyr Gly Pro Thr Phe Thr Thr
 35 40 45

Gly Asp Val Ile Gly Cys Cys Val Asn Leu Ile Asn Asn Thr Cys Phe
 50 55 60

Tyr Thr Lys Asn Gly His Ser Leu Gly Ile Ala Phe Thr Asp Leu Pro
 65 70 75 80

Pro Asn Leu Tyr Pro Thr Val Gly Leu Gln Thr Pro Gly Glu Val Val
 85 90 95

Asp Ala Asn Phe Gly Gln His Pro Phe Val Phe Asp Ile Glu Asp Tyr
 100 105 110

Met Arg Glu Trp Arg Thr Lys Ile Gln Ala Gln Ile Asp Arg Phe Pro
 115 120 125

Ile Gly Asp Arg Glu Gly Glu Trp Gln Thr Met Ile Gln Lys Met Val
 130 135 140

Ser Ser Tyr Leu Val His His Gly Tyr Cys Ala Thr Ala Glu Ala Phe
 145 150 155 160

Ala Arg Ser Thr Asp Gln Thr Val Leu Glu Glu Leu Ala Ser Ile Lys
 165 170 175

Asn Arg Gln Arg Ile Gln Lys Leu Val Leu Ala Gly Arg Met Gly Glu
 180 185 190

Ala Ile Glu Thr Thr Gln Gln Leu Tyr Pro Ser Leu Leu Glu Arg Asn
 195 200 205

Pro Asn Leu Leu Phe Thr Leu Lys Val Arg Gln Phe Ile Glu Met Val
 210 215 220

Asn Gly Thr Asp Ser Glu Val Arg Cys Leu Gly Gly Arg Ser Pro Lys
 225 230 235 240

Ser Gln Asp Ser Tyr Pro Val Ser Pro Arg Pro Phe Ser Ser Pro Ser
 245 250 255

Met Ser Pro Ser His Gly Met Asn Ile His Asn Leu Ala Ser Gly Lys
 260 265 270

Gly Ser Thr Ala His Phe Ser Gly Phe Glu Ser Cys Ser Asn Gly Val
 275 280 285

Ile Ser Asn Lys Ala His Gln Ser Tyr Cys His Ser Asn Lys His Gln
 290 295 300

Ser Ser Asn Leu Asn Val Pro Glu Leu Asn Ser Ile Asn Met Ser Arg
 305 310 315 320

Ser Gln Gln Val Asn Asn Phe Thr Ser Asn Asp Val Asp Met Glu Thr
 325 330 335

Asp His Tyr Ser Asn Gly Val Gly Glu Thr Ser Ser Asn Gly Phe Leu
 340 345 350

Asn Gly Ser Ser Lys His Asp His Glu Met Glu Asp Cys Asp Thr Glu
 355 360 365

Met Glu Val Asp Ser Ser Gln Leu Arg Arg Gln Leu Cys Gly Gly Ser
 370 375 380

Gln Ala Ala Ile Glu Arg Met Ile His Phe Gly Arg Glu Leu Gln Ala
 385 390 395 400

Met Ser Glu Gln Leu Arg Arg Asp Cys Gly Lys Asn Thr Ala Asn Lys
 405 410 415

Lys Met Leu Lys Asp Ala Phe Ser Leu Leu Ala Tyr Ser Asp Pro Trp
 420 425 430

Asn Ser Pro Val Gly Asn Gln Leu Asp Pro Ile Gln Arg Glu Pro Val
 435 440 445

Cys Ser Ala Leu Asn Ser Ala Ile Leu Glu Thr His Asn Leu Pro Lys
 450 455 460

Gln Pro Pro Leu Ala Leu Ala Met Gly Gln Ala Thr Gln Cys Leu Gly
 465 470 475 480

Leu Met Ala Arg Ser Gly Ile Gly Ser Cys Ala Phe Ala Thr Val Glu
 485 490 495

Asp Tyr Leu His
 500

<210> 308

<211> 403

<212> PRT

<213> Shigella Flexneri

<400> 308

Met Ala His Ala Met Glu Asn Ser Trp Thr Ile Ser Lys Glu Tyr His
 1 5 10 15

Ile Asp Glu Glu Val Gly Phe Ala Leu Pro Asn Pro Gln Glu Asn Leu
 20 25 30

Pro Asp Phe Tyr Asn Asp Trp Met Phe Ile Ala Lys His Leu Pro Asp
 35 40 45

Leu Ile Glu Ser Gly Gln Leu Arg Glu Arg Val Glu Lys Leu Asn Met
 50 55 60

Leu Ser Ile Asp His Leu Thr Asp His Lys Ser Gln Arg Leu Ala Arg
 65 70 75 80

Leu Val Leu Gly Cys Ile Thr Met Ala Tyr Val Trp Gly Lys Gly His
 85 90 95

Gly Asp Val Arg Lys Val Leu Pro Arg Asn Ile Ala Val Pro Tyr Cys
 100 105 110

Gln Leu Ser Lys Lys Leu Glu Leu Pro Pro Ile Leu Val Tyr Ala Asp
 115 120 125

Cys Val Leu Ala Asn Trp Lys Lys Lys Asp Pro Asn Lys Pro Leu Thr
 130 135 140

Tyr Glu Asn Met Asp Val Leu Phe Ser Phe Arg Asp Gly Asp Cys Ser
145 150 155 160

Lys Gly Phe Phe Leu Val Ser Leu Leu Val Glu Ile Ala Ala Ala Ser
165 170 175

Ala Ile Lys Val Ile Pro Thr Val Phe Lys Ala Met Gln Met Gln Glu
180 185 190

Arg Asp Thr Leu Leu Lys Ala Leu Leu Glu Ile Ala Ser Cys Leu Glu
195 200 205

Lys Ala Leu Gln Val Phe His Gln Ile His Asp His Val Asn Pro Lys
210 215 220

Ala Phe Phe Ser Val Leu Arg Ile Tyr Leu Ser Gly Trp Lys Gly Asn
225 230 235 240

Pro Gln Leu Ser Asp Gly Leu Val Tyr Glu Gly Phe Trp Glu Asp Pro
245 250 255

Lys Glu Phe Ala Gly Gly Ser Ala Gly Gln Ser Ser Val Phe Gln Cys
260 265 270

Phe Asp Val Leu Leu Gly Ile Gln Gln Thr Ala Gly Gly Gly His Ala
275 280 285

Ala Gln Phe Leu Gln Asp Met Arg Arg Tyr Met Pro Pro Ala His Arg
290 295 300

Asn Phe Leu Cys Ser Leu Glu Ser Asn Pro Ser Val Arg Glu Phe Val
305 310 315 320

Leu Ser Lys Gly Asp Ala Gly Leu Arg Glu Ala Tyr Asp Ala Cys Val
325 330 335

Lys Ala Leu Val Ser Leu Arg Ser Tyr His Leu Gln Ile Val Thr Lys
340 345 350

Tyr Ile Leu Ile Pro Ala Ser Gln Gln Pro Lys Glu Asn Lys Thr Ser
355 360 365

Glu Asp Pro Ser Lys Leu Glu Ala Lys Gly Thr Gly Gly Thr Asp Leu

370

375

380

Met Asn Phe Leu Lys Thr Val Arg Ser Thr Thr Glu Lys Ser Leu Leu
 385 390 395 400

Lys Glu Gly

<210> 309

<211> 698

<212> PRT

<213> Shigella Flexneri

<400> 309

Gly Glu Pro Glu Gly Ser Phe Val Asp Tyr Gln Thr Thr Met Val Arg
 1 5 10 15

Thr Ala Lys Ala Ile Ala Val Thr Val Gln Glu Met Val Thr Lys Ser
 20 25 30

Asn Thr Ser Pro Glu Glu Leu Gly Pro Leu Ala Asn Gln Leu Thr Ser
 35 40 45

Asp Tyr Gly Arg Leu Ala Ser Glu Ala Lys Pro Ala Ala Val Ala Ala
 50 55 60

Glu Asn Glu Glu Ile Gly Ser His Ile Lys His Arg Val Gln Glu Leu
 65 70 75 80

Gly His Gly Cys Ala Ala Leu Val Thr Lys Ala Gly Ala Leu Gln Cys
 85 90 95

Ser Pro Ser Asp Ala Tyr Thr Lys Lys Glu Leu Ile Glu Cys Ala Arg
 100 105 110

Arg Val Ser Glu Lys Val Ser His Val Leu Ala Ala Leu Gln Ala Gly
 115 120 125

Asn Arg Gly Thr Gln Ala Cys Ile Thr Ala Ala Ser Ala Val Ser Gly
 130 135 140

Ile Ile Ala Asp Leu Asp Thr Thr Ile Met Phe Ala Thr Ala Gly Thr
 145 150 155 160

Leu Asn Arg Glu Gly Thr Glu Thr Phe Ala Asp His Arg Glu Gly Ile
 165 170 175

Leu Lys Thr Ala Lys Val Leu Val Glu Asp Thr Lys Val Leu Val Gln
 180 185 190

Asn Ala Ala Gly Ser Gln Glu Lys Leu Ala Gln Ala Ala Gln Ser Ser
 195 200 205

Val Ala Thr Ile Thr Arg Leu Ala Asp Val Val Lys Leu Gly Ala Ala
 210 215 220

Ser Leu Gly Ala Glu Asp Pro Glu Thr Gln Val Val Leu Ile Asn Ala
 225 230 235 240

Val Lys Asp Val Ala Lys Ala Leu Gly Asp Leu Ile Ser Ala Thr Lys
 245 250 255

Ala Ala Ala Gly Lys Val Gly Asp Asp Pro Ala Val Trp Gln Leu Lys
 260 265 270

Asn Ser Ala Lys Val Met Val Thr Asn Val Thr Ser Leu Leu Lys Thr
 275 280 285

Val Lys Ala Val Glu Asp Glu Ala Thr Lys Gly Thr Arg Ala Leu Glu
 290 295 300

Ala Thr Thr Glu His Ile Arg Gln Glu Leu Ala Val Phe Cys Ser Pro
 305 310 315 320

Glu Pro Pro Ala Lys Thr Ser Thr Pro Glu Asp Phe Ile Arg Met Thr
 325 330 335

Lys Gly Ile Thr Met Ala Thr Ala Lys Ala Val Ala Ala Gly Asn Ser
 340 345 350

Cys Arg Gln Glu Asp Val Ile Ala Thr Ala Asn Leu Ser Arg Arg Ala
 355 360 365

Ile Ala Asp Met Leu Arg Ala Cys Lys Glu Ala Ala Tyr His Pro Glu
370 375 380

Val Ala Pro Asp Val Arg Leu Arg Ala Leu His Tyr Gly Arg Glu Cys
385 390 395 400

Ala Asn Gly Tyr Leu Glu Leu Leu Asp His Val Leu Leu Thr Leu Gln
405 410 415

Lys Pro Ser Pro Glu Leu Lys Gln Gln Leu Thr Gly His Ser Lys Arg
420 425 430

Val Ala Gly Ser Val Thr Glu Leu Ile Gln Ala Ala Glu Ala Met Lys
435 440 445

Gly Thr Glu Trp Val Asp Pro Glu Asp Pro Thr Val Ile Ala Glu Asn
450 455 460

Glu Leu Leu Gly Ala Ala Ala Ala Ile Glu Ala Ala Ala Lys Lys Leu
465 470 475 480

Glu Gln Leu Lys Pro Arg Ala Lys Pro Lys Glu Ala Asp Glu Ser Leu
485 490 495

Asn Phe Glu Glu Gln Ile Leu Glu Ala Ala Lys Ser Ile Ala Ala Ala
500 505 510

Thr Ser Ala Leu Val Lys Ala Ala Ser Ala Ala Gln Arg Glu Leu Val
515 520 525

Ala Gln Gly Lys Val Gly Ala Ile Pro Ala Asn Ala Leu Asp Asp Gly
530 535 540

Gln Trp Ser Gln Gly Leu Ile Ser Ala Ala Arg Met Val Ala Ala Ala
545 550 555 560

Thr Asn Asn Leu Cys Glu Ala Ala Asn Ala Ala Val Gln Gly His Ala
565 570 575

Ser Gln Glu Lys Leu Ile Ser Ser Ala Lys Gln Val Ala Ala Ser Thr
580 585 590

Ala Gln Leu Leu Val Ala Cys Lys Val Lys Ala Asp Gln Asp Ser Glu
 595 600 605

Ala Met Lys Arg Leu Gln Ala Ala Gly Asn Ala Val Lys Arg Ala Ser
 610 615 620

Asp Asn Leu Val Lys Ala Ala Gln Lys Ala Ala Ala Phe Glu Glu Gln
 625 630 635 640

Glu Asn Glu Thr Val Val Val Lys Glu Lys Met Val Gly Gly Ile Ala
 645 650 655

Gln Ile Ile Ala Ala Gln Glu Glu Met Leu Arg Lys Glu Arg Glu Leu
 660 665 670

Glu Glu Ala Arg Lys Lys Leu Ala Gln Ile Arg Gln Gln Gln Tyr Lys
 675 680 685

Phe Leu Pro Ser Glu Leu Arg Asp Glu His
 690 695

<210> 310

<211> 53

<212> PRT

<213> Shigella Flexneri

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Xaa	Gln	Glu	Xaa	Glu	Leu	Gln	Xaa	Ala	Gly	Asp	Ala	Xaa	Leu	Pro	Xaa
1				5					10				15		

Arg	Xaa	Arg	Xaa	Thr	Asp	Ala	Xaa	Xaa	Trp	Val	Leu	Gly	Xaa	Gln	Thr
			20					25					30		

Thr	Xaa	Xaa	Xaa	Thr	Xaa	Val	Xaa	Val	Arg	Xaa	Xaa	Xaa	Gly	Cys	Thr
		35					40						45		

Xaa	Xaa	Val	Ile	Ala
		50		

<210> 311

<211> 314

<212> PRT

<213> Shigella Flexneri

<400> 311

Tyr	Ser	Pro	Thr	Ser	Pro	Ser	Tyr	Ser	Pro	Thr	Ser	Pro	Ser	Tyr	Ser
1				5				10					15		

Pro	Thr	Ser	Pro	Ser	Tyr	Ser	Pro	Thr	Ser	Pro	Ser	Tyr	Ser	Pro	Thr
		20					25					30			

Ser	Pro	Ser	Tyr	Ser	Pro	Thr	Ser	Pro	Ser	Tyr	Ser	Pro	Thr	Ser	Pro
		35				40				45					

Ser	Tyr	Ser	Pro	Thr	Ser	Pro	Ser	Tyr	Ser	Pro	Thr	Ser	Pro	Ser	Tyr
	50					55				60					

Ser	Pro	Thr	Ser	Pro	Ser	Tyr	Ser	Pro	Thr	Ser	Pro	Ser	Tyr	Ser	Pro
65					70				75					80	

Thr Ser Pro Ser Tyr Ser Pro Thr Ser Pro Asn Tyr Ser Pro Thr Ser
85 90 95

Pro Asn Tyr Thr Pro Thr Ser Pro Ser Tyr Ser Pro Thr Ser Pro Ser
100 105 110

Tyr Ser Pro Thr Ser Pro Asn Tyr Thr Pro Thr Ser Pro Asn Tyr Ser
115 120 125

Pro Thr Ser Pro Ser Tyr Ser Pro Thr Ser Pro Ser Tyr Ser Pro Thr
130 135 140

Ser Pro Ser Tyr Ser Pro Ser Ser Pro Arg Tyr Thr Pro Gln Ser Pro
145 150 155 160

Thr Tyr Thr Pro Ser Ser Pro Ser Tyr Ser Pro Ser Ser Pro Ser Tyr
165 170 175

Ser Pro Thr Ser Pro Lys Tyr Thr Pro Thr Ser Pro Ser Tyr Ser Pro
180 185 190

Ser Ser Pro Glu Tyr Thr Pro Thr Ser Pro Lys Tyr Ser Pro Thr Ser
195 200 205

Pro Lys Tyr Ser Pro Thr Ser Pro Lys Tyr Ser Pro Thr Ser Pro Thr
210 215 220

Tyr Ser Pro Thr Thr Pro Lys Tyr Ser Pro Thr Ser Pro Thr Tyr Ser
225 230 235 240

Pro Thr Ser Pro Val Tyr Thr Pro Thr Ser Pro Lys Tyr Ser Pro Thr
245 250 255

Ser Pro Thr Tyr Ser Pro Thr Ser Pro Lys Tyr Ser Pro Thr Ser Pro
260 265 270

Thr Tyr Ser Pro Thr Ser Pro Lys Gly Ser Thr Tyr Ser Pro Thr Ser
275 280 285

Pro Gly Tyr Ser Pro Thr Ser Pro Thr Tyr Ser Leu Thr Ser Pro Ala
290 295 300

Ile Ser Pro Asp Asp Ser Asp Glu Glu Asn

305

310

<210> 312

<211> 125

<212> PRT

<213> Shigella Flexneri

<400> 312

Met His Lys Glu Glu His Glu Val Ala Val Leu Gly Ala Pro Pro Ser
 1 5 10 15

Thr Ile Leu Pro Arg Ser Thr Val Ile Asn Ile His Ser Glu Thr Ser
 20 25 30

Val Pro Asp His Val Val Trp Ser Leu Phe Asn Thr Leu Phe Leu Asn
 35 40 45

Trp Cys Cys Leu Gly Phe Ile Ala Phe Ala Tyr Ser Val Lys Ser Arg
 50 55 60

Asp Arg Lys Met Val Gly Asp Val Thr Gly Ala Gln Ala Tyr Ala Ser
 65 70 75 80

Thr Ala Lys Cys Leu Asn Ile Trp Ala Leu Ile Leu Gly Ile Leu Met
 85 90 95

Thr Ile Gly Phe Ile Leu Ser Leu Val Phe Gly Ser Val Thr Val Tyr
 100 105 110

His Ile Met Leu Gln Ile Ile Gln Glu Lys Arg Gly Tyr
 115 120 125

<210> 313

<211> 283

<212> PRT

<213> Shigella Flexneri

<400> 313

Met Glu Lys Thr Cys Ile Asp Ala Leu Pro Leu Thr Met Asn Ser Ser
 1 5 10 15

Glu Lys Gln Glu Thr Val Cys Ile Phe Gly Thr Gly Asp Phe Gly Arg
 20 25 30

Ser Leu Gly Leu Lys Met Leu Gln Cys Gly Tyr Ser Val Val Phe Gly
 35 40 45

Ser Arg Asn Pro Gln Lys Thr Thr Leu Leu Pro Ser Gly Ala Glu Val
 50 55 60

Leu Ser Tyr Ser Glu Ala Ala Lys Lys Ser Asp Ile Ile Ile Ile Ala
 65 70 75 80

Ile His Arg Glu His Tyr Asp Phe Leu Thr Glu Leu Thr Glu Val Leu
 85 90 95

Asn Gly Lys Ile Leu Val Asp Ile Ser Asn Asn Leu Lys Ile Asn Gln
 100 105 110

Tyr Pro Glu Ser Asn Ala Glu Tyr Leu Ala His Leu Val Pro Gly Ala
 115 120 125

His Val Val Lys Ala Phe Asn Thr Ile Ser Ala Trp Ala Leu Gln Ser
 130 135 140

Gly Ala Leu Asp Ala Ser Arg Gln Val Phe Val Cys Gly Asn Asp Ser
 145 150 155 160

Lys Ala Lys Gln Arg Val Met Asp Ile Val Arg Asn Leu Gly Leu Thr
 165 170 175

Pro Met Asp Gln Gly Ser Leu Met Ala Ala Lys Glu Ile Glu Lys Tyr
 180 185 190

Pro Leu Gln Leu Phe Pro Met Trp Arg Phe Pro Phe Tyr Leu Ser Ala
 195 200 205

Val Leu Cys Val Phe Leu Phe Phe Tyr Cys Val Ile Arg Asp Val Ile
 210 215 220

Tyr Pro Tyr Val Tyr Glu Lys Lys Asp Asn Thr Phe Arg Met Ala Ile
 225 230 235 240

Ser Ile Pro Asn Arg Ile Phe Pro Ile Thr Ala Pro Tyr Thr Ala Cys
 245 250 255

Phe Gly Leu Pro Pro Trp Cys Tyr Cys Cys His Ser Thr Thr Val Pro
 260 265 270

Arg His Lys Ile Pro Ser Ile Pro Arg Leu Ala
 275 280

<210> 314

<211> 105

<212> PRT

<213> Shigella Flexneri

<400> 314

Gln Asp Val Gln Ala Ser Gln Ala Glu Ala Asp Gln Gln Gln Thr Arg
 1 5 10 15

Leu Lys Glu Leu Glu Ser Gln Val Ser Gly Leu Glu Lys Glu Ala Ile
 20 25 30

Glu Leu Arg Glu Ala Val Glu Gln Gln Lys Val Lys Asn Asn Asp Leu
 35 40 45

Arg Glu Lys Asn Trp Lys Ala Met Glu Ala Leu Ala Thr Ala Glu Gln
 50 55 60

Ala Cys Lys Glu Lys Leu His Ser Leu Thr Gln Ala Lys Glu Glu Ser
 65 70 75 80

Glu Lys Gln Leu Cys Leu Ile Glu Ala Gln Thr Met Glu Ala Leu Leu
 85 90 95

Ala Leu Leu Pro Glu Leu Ser Val Leu
 100 105

<210> 315

<211> 65

<212> PRT

<213> Shigella Flexneri

<400> 315

Ala Glu Glu Thr Gln Ser Thr Leu Gln Ala Glu Cys Asp Gln Tyr Arg
1 5 10 15

Ser Ile Leu Ala Glu Thr Glu Gly Met Leu Arg Asp Leu Gln Lys Ser
20 25 30

Val Glu Glu Glu Glu Gln Val Trp Arg Ala Lys Val Gly Ala Ala Glu
35 40 45

Glu Glu Leu Gln Lys Ser Arg Val Thr Val Lys His Leu Glu Glu Ile
50 55 60

Val
65

<210> 316

<211> 18

<212> PRT

<213> Shigella Flexneri

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<400> 316

Xaa	Glu	Xaa	Xaa	Met	Pro	Lys	Gly	Gln	Gly	Gly	Ile	Gly	Xaa	Leu	Xaa
1				5					10					15	

Trp Leu

<210> 317

<211> 187

<212> PRT

<213> Shigella Flexneri

<400> 317

Met	Thr	Ala	Asp	Leu	Pro	Asn	Glu	Leu	Ile	Glu	Leu	Leu	Glu	Lys	Ile
1				5					10					15	

Val	Leu	Asp	Asn	Ser	Val	Phe	Ser	Glu	His	Arg	Asn	Leu	Gln	Asn	Leu
			20					25					30		

Leu	Ile	Leu	Thr	Ala	Ile	Lys	Ala	Asp	Arg	Thr	Arg	Val	Met	Glu	Tyr
		35					40					45			

Ile Asn Arg Leu Asp Asn Tyr Asp Ala Pro Asp Ile Ala Asn Ile Ala
 50 55 60

Ile Ser Asn Glu Leu Phe Glu Glu Ala Phe Ala Ile Phe Arg Lys Phe
 65 70 75 80

Asp Val Asn Thr Ser Ala Val Gln Val Leu Ile Glu His Ile Gly Asn
 85 90 95

Leu Asp Arg Ala Tyr Glu Phe Ala Glu Arg Cys Asn Glu Pro Ala Val
 100 105 110

Trp Ser Gln Leu Ala Lys Ala Gln Leu Gln Lys Gly Met Val Lys Glu
 115 120 125

Ala Ile Asp Ser Tyr Ile Lys Ala Asp Asp Pro Ser Ser Tyr Met Glu
 130 135 140

Val Val Gln Ala Ala Asn Thr Ser Gly Asn Trp Glu Glu Leu Val Lys
 145 150 155 160

Tyr Leu Gln Met Ala Arg Lys Lys Ala Arg Glu Ser Tyr Val Glu Thr
 165 170 175

Glu Leu Ile Phe Ala Leu Ala Lys Thr Asn Arg
 180 185

<210> 318

<211> 548

<212> PRT

<213> Shigella Flexneri

<400> 318

Ala Val Gln Glu Ile Ser His Leu Ile Glu Pro Leu Ala Asn Ala Ala
 1 5 10 15

Arg Ala Glu Ala Ser Gln Leu Gly His Lys Val Ser Gln Met Ala Gln
 20 25 30

Tyr Phe Glu Pro Leu Thr Leu Ala Ala Val Gly Ala Ala Ser Lys Thr
 35 40 45

Leu Ser His Pro Gln Gln Met Ala Leu Leu Asp Gln Thr Lys Thr Leu
 50 55 60

Ala Glu Ser Ala Leu Gln Leu Leu Tyr Thr Ala Lys Glu Ala Gly Gly
 65 70 75 80

Asn Pro Lys Gln Ala Ala His Thr Gln Glu Ala Leu Glu Glu Ala Val
 85 90 95

Gln Met Met Thr Glu Ala Val Glu Asp Leu Thr Thr Thr Leu Asn Glu
 100 105 110

Ala Ala Ser Ala Ala Gly Val Val Gly Gly Met Val Asp Ser Ile Thr
 115 120 125

Gln Ala Ile Asn Gln Leu Asp Glu Gly Pro Met Gly Glu Pro Glu Gly
 130 135 140

Ser Phe Val Asp Tyr Gln Thr Thr Met Val Arg Thr Ala Lys Ala Ile
 145 150 155 160

Ala Val Thr Val Gln Glu Met Val Thr Lys Ser Asn Thr Ser Pro Glu
 165 170 175

Glu Leu Gly Pro Leu Ala Asn Gln Leu Thr Ser Asp Tyr Gly Arg Leu
 180 185 190

Ala Ser Glu Ala Lys Pro Ala Ala Val Ala Ala Glu Asn Glu Glu Ile
 195 200 205

Gly Ser His Ile Lys His Arg Val Gln Glu Leu Gly His Gly Cys Ala
 210 215 220

Ala Leu Val Thr Lys Ala Gly Ala Leu Gln Cys Ser Pro Ser Asp Ala
 225 230 235 240

Tyr Thr Lys Lys Glu Leu Ile Glu Cys Ala Arg Arg Val Ser Glu Lys
 245 250 255

Val Ser His Val Leu Ala Ala Leu Gln Ala Gly Asn Arg Gly Thr Gln
 260 265 270

Ala Cys Ile Thr Ala Ala Ser Ala Val Ser Gly Ile Ile Ala Asp Leu
 275 280 285

Asp Thr Thr Ile Met Phe Ala Thr Ala Gly Thr Leu Asn Arg Glu Gly
 290 295 300

Thr Glu Thr Phe Ala Asp His Arg Glu Gly Ile Leu Lys Thr Ala Lys
 305 310 315 320

Val Leu Val Glu Asp Thr Lys Val Leu Val Gln Asn Ala Ala Gly Ser
 325 330 335

Gln Glu Lys Leu Ala Gln Ala Ala Gln Ser Ser Val Ala Thr Ile Thr
 340 345 350

Arg Leu Ala Asp Val Val Lys Leu Gly Ala Ala Ser Leu Gly Ala Glu
 355 360 365

Asp Pro Glu Thr Gln Val Val Leu Ile Asn Ala Val Lys Asp Val Ala
 370 375 380

Lys Ala Leu Gly Asp Leu Ile Ser Ala Thr Lys Ala Ala Ala Gly Lys